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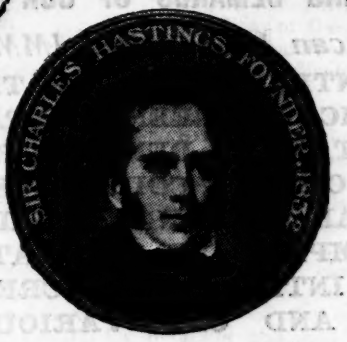

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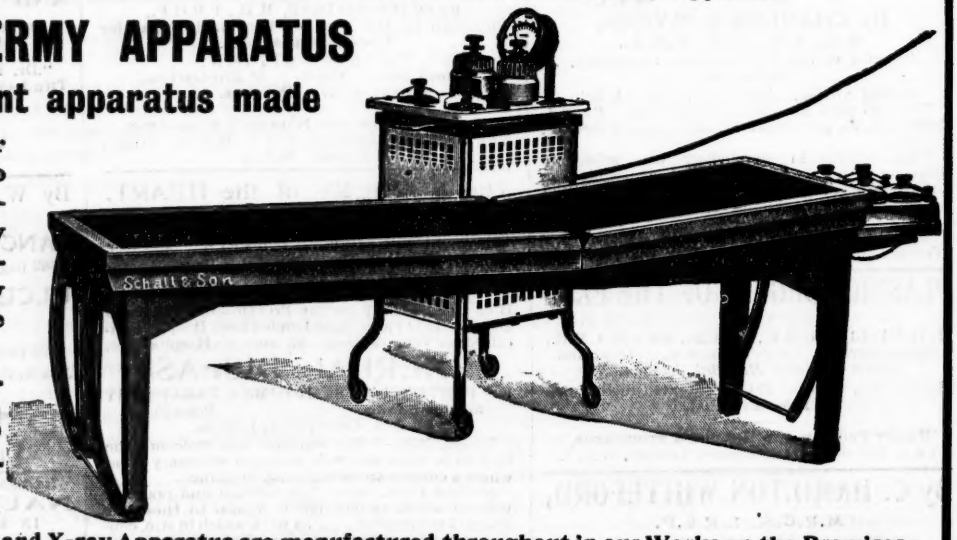

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A British Medical Association Lecture

ON

THE EARLY DIAGNOSIS OF ACUTE ABDOMINAL AFFECTIONS.*

BY

W. McADAM ECCLES, M.S., F.R.C.S.,

SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

To the physician belong acute thoracic affections, to the surgeon belong acute abdominal affections, to the general practitioner, in their early stages, belong both, and with him lies the responsibility of diagnosis, and decision as to the line of prompt treatment.

Acute abdominal affections are generally surgical emergencies, but not always and necessarily conditions requiring operative measures, though to be viewed from the first with the possibility of surgical treatment always in mind. Hence it is that an early, rapid and decisive diagnosis is of the utmost importance for the saving of human life.

An old teacher of mine, the late Dr. Samuel Gee, was insistent that in order to diagnose aright it was needful for the physician—and the surgeon, and still more the general practitioner—to be acquainted with the several conditions which could be present in any given case, for without such knowledge accurate diagnosis was impossible.

Acute abdominal conditions vary much, and it is essential for diagnosis to have a clear mental picture of each one which may be present. It is convenient, therefore, to tabulate the most frequent, with their percentage frequency, as follows:

1. Acute appendicitis...	70.7 per cent.
2. Intestinal obstructions	18.1 ,,
3. Perforations	7.2 ,,
4. Cholecystitis	2.4 ,,
5. Torsion of pedicles...	1.1 ,,
6. Acute pancreatitis	0.5 ,,
	100 ,,

In addition to the above conditions there are two other groups which have to be borne in mind—namely, the colics and poisonings.

In the adult female three other conditions have to be thought of—namely, rupture of ectopic gestation, acute salpingitis, and acute inflammation of the uterus, such as follows septic infection in criminal abortion.

Lastly, acute basal pleurisy or pneumonia, or even the pain prior to the vesicular eruption in "shingles," may simulate an "acute abdomen."

There are certain features which are common to every case of "acute abdomen." Two of these stand out pre-eminently—namely, "acuteness," and, if one may be allowed to coin the word, "abdominalism."

Acuteness is evidenced by sudden onset and rapid development of signs and symptoms.

Abdominalism is evidenced by the fact that the abdomen is obviously the site of the lesion.

Every one of the conditions tabulated above has a sudden origin and commencement and its progress is rapid, so that within a few hours the patient passes into a serious state.

The fact that the abdomen is the seat of the mischief is apparent very soon to the experienced observer. The patient may present the "abdominal facies"; he looks "anxious," and his anxiety is due to the intenseness of his abdominal symptoms. The pulse steadily increases in rate, but its rapidity is due to the distant irritation present in the abdomen, and bears no real relation to the patient's temperature. The patient vomits because the stomach is reflexly or directly disturbed. The temperature rises because of inflammation, or falls because of collapse. But all these general signs and symptoms are dependent upon and overshadowed by the actual abdominal changes.

Abdominal pain, and generally tenderness, is present in nearly every case, varying in intensity in relation to the individual and the lesion. The position of the pain may be an indication as to the viscus which is at fault. It is to be remembered, however, that pain also may be referred—for instance, appendicitis in its early stages frequently gives rise to uneasiness or pain at or near the umbilicus, and too much reliance must not be placed on pain at "McBurney's point."

Tenderness is a valuable sign, particularly if obtained when the patient's attention is distracted. I often try and get the patient himself to detect the tenderness by asking him to "prod" his abdominal wall with his finger, commencing well away from the point where I suspect the lesion, and watching his face as he approaches the region beneath which lies the offending viscus.

Rigidity of the muscles of the ventral abdominal wall is a most valuable sign, and rigidity localized to a particular area often indicates that the mischief lies deep to the wall in that spot.

To reiterate, the characteristic signs and symptoms of an "acute abdomen" are: Sudden onset, abdominal symptoms, anxious expression, rising pulse rate, often an attack of vomiting, sometimes repeated, temperature out of relation to pulse rate, abdominal pain, often tenderness and rigidity of the muscles of the ventral abdominal wall. When a patient presents all these signs and symptoms together, the case is one which may be classed as a surgical emergency.

Each of the conditions which are the causes of an "acute abdomen" has certain peculiarities of its own, and therefore has to be reviewed separately.

1. *Acute Appendicitis.*

There can be no doubt that the actual number of cases of acute appendicitis is on the increase, and over 70 per cent. of acute abdominal disease is due to this lesion. Further, every case is a serious danger. Thirdly, each case should be diagnosed and treated early. Lastly, the mortality from acute appendicitis is still far too high, chiefly because of delay in diagnosis and treatment.

A typical case of appendicitis as a rule presents but little difficulty in early diagnosis. There is a sudden onset, pain in the abdomen, frequently near the umbilicus, not at "McBurney's point," an attack of vomiting, a steady rise in pulse rate up to, perhaps, 120 or more in a child, temperature also rising, but not in proper relation to pulse rate, tenderness over the lower right half of the abdomen, with marked rigidity of the lower segment of the right rectus. If the case is allowed to progress until there is perforation of the wall of the appendix or gangrene of part or whole of the structure, the signs and symptoms become progressively more severe, owing chiefly to the involvement of the peritoneum and a toxaemia.

A word or two as to the examination of the patient. He feels ill, and is anxious about himself, often suspecting appendicitis, and imbued with the horrors he has heard concerning the disease. Therefore the utmost tact and care in examination is needed. Never approach the abdomen with cold hands. Always palpate the sound, left, side first. This gives confidence to the patient, and a standard with which to compare the right side. Never omit to make a rectal examination, but again this must be done with the utmost gentleness.

Having come to the conclusion by examination that the appendix must be suspect, it is desirable to determine if possible where it lies. Most commonly it is placed on the inner side of the caecum and upwards when tenderness is great at "McBurney's point," otherwise over the brim of the pelvis, when micturition may be disturbed, and rectal examination detects tenderness on the right side of the pelvis; or if is running "north" behind the caecum and ascending colon, and bimanual palpation often gives a clue to its presence here. Wherever the appendix may lie, once diagnose it as inflamed, the sooner it is removed the better. To wait for perforation and the formation of a localized abscess is to lose precious time, though perhaps not a precious life. To allow perforation or gangrene to occur, and general peritonitis to follow, is almost criminal. Better to explore even when in doubt than to wait until almost all hope of saving life is past. The tragedies which occur from "wait and see" rather than "look and see" are indeed pathetic.

To recapitulate, 70 per cent. of acute abdomens are due to appendicitis. A sudden onset, severe pain often near the umbilicus, one attack of vomiting, a rising pulse rate, out of proportion to the rise in temperature, and rigidity of the lower half of the right rectus, are sufficient to diagnose appendicitis in its early stage and to call for operation at once.

* Delivered before the City Division, Metropolitan Counties Branch, March 2nd, 1921.

2. *Intestinal Obstructions.*

Exclude strangulated hernia at any of the ordinary hernial sites. Obturator hernia is difficult to diagnose; but then it is a rare condition. Internal strangulation and intussusception are the two commoner forms of intestinal obstruction within the abdomen. In both the onset is sudden, pain is marked, and vomiting occurs. In internal strangulation the vomiting is repeated, becomes more urgent, and nothing except removal of the strangulation will relieve it.

In intussusception the vomiting is not so urgent. In strangulation there is "absolute constipation," no passage either of flatus or faeces. In intussusception there is the typical evacuation of blood-stained mucus. In both distension may be an early and prominent sign. In strangulation the pulse rate rises and the temperature falls; in intussusception the same may occur. In intestinal obstruction due to a volvulus a tumour may be felt, generally in the left iliac fossa. In intussusception a tumour may be felt through the abdominal wall, and usually near the umbilicus.

The causes of intestinal obstruction are many, the signs and symptoms of the lesion are similar and as a rule quite characteristic, and the treatment may be summed up in the one word—Operation.

To delay is dangerous and may be fatal; to explore early will not only confirm diagnosis but will generally promote the cure of the patient.

3. *Perforations.*

Perhaps nothing gives rise to an "acuter abdomen" than the perforation of a hollow viscus. The stomach, the duodenum, the appendix, and the gall bladder may all give way, and their contents pass into the peritoneal cavity, producing the most alarming signs and symptoms.

To take a typical case of the perforation of a duodenal ulcer in a male. He is at work when a sudden agonizing pain seizes him in the upper half of the abdomen. He is doubled up, and gasps for breath, because his diaphragm will not descend. He assumes the horizontal position and vomits. When now examined he appears most anxious, his pulse is small and rapid, there is still much pain in his abdomen, the whole of the ventral abdominal wall is rigid, and particularly the upper half of the right rectus. Even upon the foregoing signs and symptoms the practitioner is quite warranted in diagnosing a perforation, and preparations should be made for an immediate operation. Again, it is much better to explore than to wait for advanced signs, such as loss of liver dullness, evidence of free fluid in the abdomen, and signs of peritonitis.

4. *Cholecystitis.*

There is often a history of attacks pointing to gall stones, sometimes with a previous jaundice. As a rule the onset of symptoms due to an acute inflammation of the gall bladder is rapid: some pain in the right hypochondrium, pain referred in some cases to the right scapular region, vomiting, a steady rise of pulse-rate, with a rise of temperature which may be rapid with a rigor, and muscular rigidity in the upper half of the right rectus. A tumour may be palpated near the right ninth costal cartilage where it joins the eighth. This tumour moves downwards with inspiration, and its dullness is continuous with the hepatic dullness. If all these points are present a sure diagnosis can be made, and that early, and a prompt operation will save life.

5. *Torsion of Pedicles.*

Various structures within the abdomen may possess pedicles. If the pedicle of any tumour or organ becomes twisted there is immediately interference with the circulation of blood in the attached structure.

The following are some of the intra-abdominal torsions which may occur:

(1) Ovarian cyst.
(2) Subperitoneal uterine fibroids.
(3) "Floating" kidney.
(4) Wandering spleen.

Of these, the twisting of the pedicle of an ovarian cyst is far the most common. If this happens suddenly, a condition which may aptly be called an "acute abdomen" follows.

The history is not infrequently that of a young or middle-aged woman, who has noticed little if anything wrong with her abdomen previously; while alighting from a bus she is suddenly seized with severe pain in the lower part of the abdomen, associated with vomiting and all the signs of shock. The pulse rate increases, but its force is feeble. Examination of the abdomen reveals a swelling, tender on pressure and dull on percussion. Bimanual pelvic examination confirms the presence of an ovarian cyst, and the symptoms show that its pedicle is twisted. A somewhat similar condition may occur as the result of a twist of the pedicle of a subperitoneal fibroid of the uterus, but the symptoms are not nearly so acute.

A "floating" kidney is a kidney which has a congenital mesonephron, and the organ can float in the abdominal cavity like any other organ possessing such a peritoneal investment. Sometimes its pedicle may be twisted, and very acute symptoms result therefrom. A "movable" kidney is one which moves up and down in its bed behind the peritoneum. If its mobility is sufficient its pedicle may become kinked, and a "renal crisis" may occur. This comes on suddenly with acute abdominal pain referred to the lumbar region of the affected side. The patient vomits, and the pulse rate rises, and although the temperature may be a little high, the pulse is higher than the temperature would warrant. The enlarged kidney may be felt as a tender lump, and very little urine is passed. A spleen is very rarely so mobile as to allow of a twist of its pedicle.

6. *Acute Pancreatitis.*

It is the so-called haemorrhagic variety of inflammation of the pancreas which gives rise to symptoms of an "acute abdomen." The lesion is due to a rapid infection of the pancreatic tissue via the duct, or possibly through the blood, by a streptococcus. The onset of the symptoms is sudden, so sudden that the patient is *hors de combat* in a few minutes. This is probably due to the loss of blood into the pancreatic tissues producing a profound shock similar to a blow on the "pit of the stomach." There is abdominal pain, referred to the epigastrium at first, and soon to the back in the lumbar region. Vomiting occurs, but is not persistent. The pulse rate quickens and the volume of the pulse is less. The temperature may fall while the pulse goes up, but later there is a rise of temperature. A very characteristic sign occurs even in the early stages, and it is one which serves to distinguish this cause of an "acute abdomen" from all the others. The patient's face and extremities are distinctly cyanosed, and there may be some dyspnoea. Further, there may be a slight icteric tinge of the conjunctivae. Loewe's adrenaline test may be of help, but all this type of test serves to delay abdominal exploration, which not only confirms the almost certain diagnosis of the lesion, but also is the only means of saving the patient's life.

Colics.

We have now reviewed the common causes of really acute abdominal conditions, but it has to be confessed that there are certain other conditions which, while they may give the patient very severe distress, nevertheless do not place his life in danger. I refer to what may be termed "the colics"—intestinal, renal, or biliary.

We have all seen patients suffering agonies from each of these spasmodic contractions of unstriped muscle, but very few of us have ever seen death occur primarily on account of any one of them. Intestinal colic is very common, and unless very severe it does not produce a condition which really simulates an "acute abdomen." There is one sign which is of great importance, and that is that pressure upon the abdominal wall tends to relieve the patient's pain. Of none of the lesions producing an "acute abdomen" can the same be said. It is so characteristic that pressure causes pain in the serious condition, and does not do so, but actually relieves it, in simple colic, that if there is tenderness on pressure associated with any other symptoms of an "acute abdomen" it is better to diagnose the presence of a lesion which is a menace to life.

Poisoning.

Poisonings occur and simulate an "acute abdomen." There is generally, however, a definite history of the intake or absorption of an irritant substance which helps the diagnosis.

Gynaecological Conditions.

I need only refer again to the three conditions: rupture of an ectopic gestation, acute salpingitis, and acute septic metritis, and to say that when the patient is an adult female one must always bear them in mind,

In conclusion, gentlemen, it is a matter of congratulation that while the causes of an "acute abdomen" are not apparently on the wane, the gravity of the condition is becoming more and more recognized, and its early diagnosis, which is a matter of supreme value, arrived at in a much larger number of instances. We must look forward to the day when all "acute abdomens" will be recognized within the first few hours of their sudden onset, and surgical treatment carried out with the least possible delay.

A NOTE ON INJURIES TO THE FEMALE URETER.

BY

A. LEYLAND ROBINSON, M.D.LOND., F.R.C.S.ENG.,

HONORARY ASSISTANT SURGEON, HOSPITAL FOR WOMEN, SHAW STREET, LIVERPOOL.

KELLY AND BURNAM[1] state that injury to the ureter is the most common complication of pelvic surgery, whilst Burney[2] has collected sixty-two such cases, of which sixteen were bilateral; probably the bulk of such accidents are either overlooked or not reported. The course of this duct and its surgical relationships make it peculiarly liable to injury in women. Certain anatomical points are worthy of notice:

1. The female ureter enters the pelvis behind the infundibulo-pelvic fold and its contained vessels, and may readily be injured during ligation of the ovarian artery, particularly if the fold is put on the stretch and the needle passed close to the pelvic wall.
2. Curving forwards below the pelvic brim the ureter lies above the suspensory ligament of pelvic fascia (Paterson[3]) in close contact with the posterior leaf of peritoneum—an important and constant surgical landmark even in fat subjects.
3. At the base of the broad ligament the duct is crossed in front by the uterine vessels, and not uncommonly has an additional artery behind it (an accessory uterine or vaginal branch).
4. The ureter perforates the parametrium at a distance of about three-quarters of an inch from the cervix, where it is enclosed in a fibrous tunnel (the so-called ureteric canal), and surrounded by veins derived from the vaginal and vesical plexuses.
5. The terminal part has variable relationships, as shown by Hellier,[4] but it may be said to lie on the roof of the lateral vaginal fornix.

The possibility of injury is always present when ligating the ovarian and uterine vessels, and when dividing the attachments of the broad ligaments, cervix, vagina, and bladder. This risk is reduced to a minimum in ordinary cases if the operator (1) works entirely within the course of the duct; (2) avoids the pelvic wall when tying the infundibulo-pelvic fold and ovarian vessels; (3) divides the broad ligament close to the cervix; and (4) pushes the bladder well down before opening the vagina.

In Wertheim's operation, however, full exposure of both ureters is essential, and such dissection may be the easiest way to avoid injury in other cases, particularly where burrowing fibroids and intraligamentary cysts have led to anatomical dislocation, and perhaps distension from pressure. At all times free bleeding may occur to obscure the relationships and increase the likelihood of the ureter being mistaken for a vessel or band of peritoneum. Identity must be established by one or more of the following tests:

1. Kelly's vermicular contraction test—that is, waves of peristalsis produced by stroking the ureter—pathognomonic when seen.
2. Absence of pulsation.
3. Consistency and thickness of wall; the ureter is much thicker and harder than a vein and thicker and softer than an artery.
4. Familiarity with surgical landmarks, especially attachment to the posterior leaf of peritoneum (described above); no blood vessel hugs the peritoneum in this way.

Results of such injuries may be summarized as follows:

Bilateral.

(*a*) Double section; leakage with general infection and death.
(*b*) Double ligation, with anuria; fatal if unrelieved. Treatment consists in either releasing or implanting one or both ureters, or in draining the kidneys by nephrostomy. Two typical cases may be quoted of double ureteric ligation. Caulk and Fischer[5] record a case operated on successfully after eight days' suppression in which double nephrostomy was performed. It is interesting to note that fifty-nine days later complete canalization of the ligated ureters had taken place, and all the urine was being passed via the bladder. Cuthbert Lockyer[6] mentions a similar case in which he implanted one ureter into the bladder and removed the opposite kidney with complete recovery.
(*c*) In those cases, undoubtedly rare, in which only one kidney or normal kidneys and only one ureter are present, a single injury is functionally a double one.

Unilateral.

(*a*) Section, with leakage; acute infection.
(*b*) Partial section, with subsequent leakage and fistula formation.
(*c*) Ligation, atrophy of kidney with or without symptoms of renal insufficiency (acute or chronic uraemia).
(*d*) Ligation, reflex suppression with complete anuria.

The ideal treatment (as in bilateral cases) is immediate repair or implantation, but usually such manipulations are difficult and increase shock by prolonging the operation; they may also be followed by secondary contracture and obstruction at the site of repair unless there is a complete absence of tension.

Simple ligation of both ends of the cut ureter has been practised deliberately by many surgeons, generally without harmful sequelae if the remaining kidney is healthy. Atrophy of the affected kidney is preceded by distension but no true hydronephrosis develops; pain in the loin and tenderness on palpation with tachycardia are the commonest symptoms, often so trivial as to be overlooked by surgeon and patient. If the remaining kidney is unhealthy and unable to take on additional work uraemic symptoms appear. Rarely complete anuria may follow from reflex suppression, as the following case illustrates:

Mrs. D., a widow, aged 51, was admitted to Shaw Street Hospital for Women, March 20th, 1920, with a history of eighteen months' excessive bleeding at the periods and slight recent leucorrhoeal discharge. She also complained of shortness of breath on exertion and some loss of flesh.

The cervix uteri was thickened and contained a nodule that bled readily on examination; it was therefore decided to remove the uterus by Wertheim's method for early carcinoma. This was carried out on March 22nd. The left ureter was cut at the pelvic brim when ligating the ovarian vessels. Implantation being considered impracticable, both ends were tied off and covered with peritoneum. Otherwise the operation presented no unusual features, and the patient's general condition immediately afterwards was quite satisfactory. The following is an extract from the notes of the case:

March 23rd (day after operation): Patient restless; slept little; a good deal of pain and a little vomiting. Temperature 99.4°; pulse 92; 3 ounces of urine passed during night. March 24th: Less pain; no vomiting; has passed flatus and is retaining salines. Temperature 100.8°; pulse 104; 9 ounces of urine passed yesterday, and 12 ounces this morning. March 25th: Suppression of urine since 7 p.m. last night; bladder empty; hot packs ordered with salines and fomentations to the loins; pilocarpine 1/10 grain, pulv. jalapae co. 30 grains. 6 p.m.: Bladder still empty; patient sweating freely; theocin 5 grains two-hourly. March 26th: Suppression continues; oedema of face, ankles, and hands; irregular breathing during the night; patient quite clear mentally; complains of severe headache; slight diarrhoea; no vomiting; no muscular twitchings; moderate cyanosis. Temperature 100.8°; pulse 120.

I saw her when anuria had persisted for forty-one hours; there had been no response to conservative measures; the cyanosis was marked and the general condition alarming; fortunately there was no doubt as to the patency of the right ureter; I therefore decided to decapsulate the right kidney. This was done under light ether anaesthesia. The kidney was quickly delivered and found to be deeply congested, dark blue in colour and hard in consistency, but otherwise showed no sign of disease. After incision of the capsule the edges were quickly separated by bulging renal substance, demonstrating an obviously increased intrarenal tension. The capsule was stripped up and excised and the wound closed with one layer of sutures—the whole operation lasting fifteen minutes. Three hours later 3½ oz. of urine were removed by catheter; 62 oz. were passed in the following eighteen hours and altogether 4½ pints in the forty eight hours succeeding operation.

Convalescence was uneventful, and in spite of a mild attack of cystitis and parotitis the patient left hospital on April 27th, 1920, looking and feeling well. She had no symptoms of renal insufficiency and MacLean's test gave a urea excretion of 2 per cent. Polyuria was absent; the specific gravity was maintained above 1015, whilst the average amount of urine passed daily for thirty days was 28 oz., an amount stated by Foxwell[7] to be normal for a healthy woman. In view of these findings it was not considered necessary to estimate the urea blood content or to use colorimetric methods. At the present date (twelve months later) she remains quite well.

This case illustrates certain points in the pathology of anuria and emphasizes the important part played by vascular changes in the production of this condition. It must be noted that three chief factors are concerned in producing diminution of the urinary secretion:

1. Circulatory (spasm or thrombosis), the result of (*a*) direct action on the vessels of bodies such as turpentine; (*b*) indirect action of poisons or toxins acting through the vasomotor system.

2. Epithelial changes, either (*a*) primary, the result of toxins (for example, diphtheria), or (*b*) secondary to vascular changes or nervous trauma.

3. Obstruction to the tubules, which may be (*a*) extracapsular—renal calculi—or other gross pressure on or in the ureters from bilateral neoplasms, or untreated injuries, or (*b*) intracapsular—arising from purely vascular changes, inflammatory exudates (for example, acute nephritis), or possibly degenerative lesions (? eclampsia).

Probably several of these factors are in action at once, but there is a type of case in which the kidney is hard and congested and gapes through the split capsule; here intracapsular or intrarenal pressure is playing the chief part by crushing the renal epithelium against the unyielding capsule. This pressure can be relieved by decapsulation or by various medicinal methods. The value of veratrone (recently emphasized by Bourne[8]) and morphine in eclampsia is probably due to their effect in lowering the general blood pressure and so reducing intrarenal tension. Similarly methods which were said to diminish toxaemia (purgatives, diaphoretics) may act in the same way by depleting the circulation. It is unfortunate that decapsulation should always be associated with the name of Edebohls, who practised it almost entirely for chronic nephritis. He maintained that new vessels were formed between the denuded kidney and its fatty capsule, and that this anastomosis, by increasing the renal circulation, promoted the absorption of inflammatory tissue and led to the regeneration of renal epithelium. Many observers have failed to confirm his findings; as Boyd and Beattie[9] point out, such adventitious vessels may be formed, but they probably fail to do more than compensate for the capsular vessels ruptured by the operation. The real indication for decapsulation is an acute increase in intrarenal pressure; this is not seen in the kidney of chronic interstitial nephritis, in which the effects of pressure are neutralized by protecting bands of fibrous tissue.

Harrison,[10] the real pioneer, who anticipated Edebohls by two years, was clearly familiar with this condition, for he describes the hardness of the kidney and compares the increased tension with that seen in the eye in glaucoma. It is further interesting to note that his first three cases were distinctly medical or toxic in type, and due to scarlet fever, influenza, and nephritis from cold respectively. Clifford White[11] has advanced important evidence in favour of the presence of increased intrarenal pressure and the value of decapsulation in eclampsia. There is, however, a tendency to regard suppression as a purely toxic condition, and if not unsuitable for operation, at least only suitable when all conservative measures have failed. No doubt the vascular changes are greater in some cases than others—for example, Rose Bradford[12] states they are marked in the acute nephritis of scarlet fever and slight in that of diphtheria. But although toxaemia may be the chief pathological agent, vascular changes are rarely absent; they lead to further impairment of function, and establish a vicious circle in which a rising intracapsular pressure is the important pathological mechanism.

It is, of course, essential to treat toxaemia and give conservative remedies a fair trial, but it is unfair to expect decapsulation to be useful in the terminal stages when thrombosis and necrosis have occurred and the renal epithelium is irremediably damaged. I would urge that in any acute suppression of urine (partial as well as complete) where the patient is not responding to treatment an early decapsulation should be seriously considered.

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A Lecture
ON
THE AXIS OF ASTIGMATISM.*

BY
N. BISHOP HARMAN, M.A., M.B.CANTAB., F.R.C.S.ENG.,
SENIOR OPHTHALMIC SURGEON TO THE WEST LONDON HOSPITAL AND THE BELGRAVE HOSPITAL FOR CHILDREN.

RECENTLY I had an inquiry from a practitioner engaged in eye work at a school clinic in South Africa, asking advice on the best and most accurate method of determining the axis of a cylinder necessary for correcting an astigmatic error of refraction; the same question has been put to me this week. I therefore propose to deal with this practical point.

First, we must consider the mental attainments of the patients whose visual defects we propose to diagnose and correct. Our patients are children—school children—their ages run from, say, 5 to 14 years. Those of the earlier years it may be taken will certainly not have developed any notable powers of observation; and since our working arrangements must be adapted to suit the conditions of the feeblest member of the clinic, it follows that the whole of the refraction work done for children must be objective and not subjective. It is no use asking a child whether this or that glass is better than another, or what difference this lens of a fraction of a dioptre makes to clearness of vision. The child cannot be expected to tell. Those of you who wear glasses will know how difficult it is to determine between the advantages of two slightly different lenses when used to view the test type, and how much more difficult it is to set a cylindrical lens of low power exactly in the best axis. If this be so in the case of an educated adult, what can you expect of a child? Subjective tests are of little or no value in a children's clinic, and no use should be made of them except to obtain a record of visual acuity under given conditions, and even then the record must be used with due caution, bearing in mind the strangeness of the conditions of the examination to the child, and the likelihood of variations in understanding and intelligence.

No man is fit to take a share in this work of a school clinic who is not a master of the art of retinoscopy. That is the one test of competency for this work. A knowledge of external diseases and their treatment is necessary; ability to use the ophthalmoscope and determine fundus conditions is needed; but, seeing that nine-tenths or more of the work of these clinics will be to determine the cause of a suspected or known defect of visual acuity, competency in the art of retinoscopy is the outstanding requirement. The worker must be such a master of the art that he can, by the use of his mirror and lenses, both discover all the details of the refraction and judge from his results what will be the most appropriate glasses to order in any given case. Short of possessing this mastery of the art, there is no place for him in a school eye clinic.

Further, a school clinic is not the place in which to acquire this mastery. It can only be obtained by regular and assiduous work with critical patients. To the seeker after this knowledge I would advise a course of practice with young adults—those whose faculties are well developed, and who can give good responses to subjective tests; and he should choose those for whom the suppression of the power of accommodation for a few days by the use of atropine will be no detriment to their work. There will be found plenty such in any ophthalmic clinic of a teaching hospital, and with their aid he will be able to check his capacity for retinoscopy.

The following is a plan which may be recommended:

1. Ascertain the visual acuity of each eye of your test patient on the usual Snellen's types.
2. Make an attempt to improve any defect of vision by the use of trial lenses.
3. Examine the refraction by retinoscopy without the use of a mydriatic.
4. Instil an oily solution of homatropine and cocaine, 2 per cent. of each. After an interval of one hour do another retinoscopy; and then ascertain the visual results obtained with the correction arrived at by the retinoscopy.
5. Order an oily solution or ointment of atropine and cocaine, 1 per cent. of each, for use thrice daily for two days. Then

* Delivered at the West London Post-Graduate College.

repeat the retinoscopy, and the subjective test with the correction worked out by retinoscopy.

6. Finally, a week later the subjective test should be repeated before glasses are ordered.

The worker must keep a note-book in which to enter a record of each step of the examination of each patient in full detail, with comments on any difficulty met with. When he has followed out this programme with a score or two of intelligent patients, and studied the results after each day's work, he will be in a position to judge of the value and accuracy of his work; and he will also have obtained valuable knowledge of the differences between subjective tests of an eye of unknown condition, retinoscopy with and without a mydriatic, and the differences, if any, between quick and slow acting drugs, and finally of subjective tests with all the available data before him. Only by a continuous course of practice such as outlined here, in which he can check his objective work by the subjective examination of critical patients, can he cultivate a mastery of objective methods and free himself from the thraldom of reliance upon subjective responses.

I have written an account of the methods of retinoscopy that I find best to use and teach,[1] so that I propose here to deal only with one point—the best method of finding the axis of astigmatism by the use of the retinoscopy mirror.

Astigmatism is due to an inequality of the refractive index of the optical combination of the eye; the inequality can be seen and measured by retinoscopy. It may be obscured at first examination by the presence of a spherical error; as that error is corrected the fact that there is more error in one meridian of the eye than in another will be revealed. The revelation of the defect is sometimes, when the error is high, quite dramatic. The light reflex from the eye may assume the appearance of a pillar of fire. The pillar may be erect, running vertically across the pupil, or it may have an inclination or slope from the perpendicular; it may even be horizontal. It is the observance of this inclination that gives the axis of the astigmatism.

Take a plus cylinder of six or seven dioptres, look through it at a distant circular light, such as may be obtained by placing a screen pierced with a half-inch hole before an electric glow lamp; the circle of light will be seen to be distorted into a line, and as the cylinder is slowly rotated before the eye the line of light will turn also; it will only need a method of marking the inclination of this line of light to register the position of the cylinder held before the eye.

The axis of a cylinder is recorded by noting the position it takes on a circle or half-circle marked in degrees. Most students are familiar with certain standards of measurements; probably all could mark on paper with fair accuracy the measure of an inch, a centimetre, or millimetre; most women can judge a yard with surprising skill. We do these things because we are familiar with the measure, and associate it unconsciously perhaps with some concrete object. But you are not familiar with the degrees of a circle, for this measure does not often enter into everyday life. To obtain this familiarity I would refer you to something you know well—the familiar clock face; the hour marks on the face will give the salient points of the degrees of a circle.

If we take the hour mark of IX as 0° and III as 180°, then VIII will be 30°, VII 60°, VI 90°, V 120°, IV 150°. Apply this observation by association to the judgement of the inclination of the line of light seen in retinoscopy of astigmatism. Note the time that would be indicated if the line of light were the outstretched hands of the clock, if it indicated five minutes to five o'clock the inclination in degrees would be 120°. With practice, and a constant cross-reference between time of the clock and degrees of the circle, the worker will be able to read off the axis of an astigmatism from the eye itself as accurately, and often more accurately, than can be given by a critical patient in subjective examination.

Practice in direct observation should be checked by reference to the markings of the degrees on the cell of the trial frame. There are two useful methods of doing this:

1. Take a thin blackened disc of metal the size of a trial lens, bore through the centre a 10 mm. hole, and mark the diameter on the remaining part of the disc by a line of white paint just broad enough to be seen at one metre. Slip this disc into the cell of the trial frame so that the patient's pupil can be seen through the hole. Note the line of light due to the astigmatism and its inclination, and estimate the axis in degrees. Then rotate the disc in the trial frame until the painted white line is in continuity with the line of the astigmatism, note the position of the paint line to the marking on the trial frame. If the two observations, the direct observation and the position of the paint line, agree, you will have done well.

2. Correct the spherical part of the error of refraction by the use of spherical lenses, when the astigmatism is revealed correct this by the use of cylinders, placing each cylinder in the cell of the frame so that its axis coincides with the line of the astigmatism. If now the spherical correction be slightly altered so as to leave half a dioptre of hypermetropia, the light reflex due to this spherical error should move equally in every direction, and without wobble or sign of obliquity with each movement of the mirror. This is a most valuable and delicate test.

Practice of these three methods, comparing direct observation with the findings obtained with the aid of disc or cylinders, will show that it is possible in the majority of cases to measure the astigmatism both in amount and axis by the use of the mirror and spherical lenses alone; and the use of cylindrical lenses may be reserved for the few cases of real difficulty.

A concluding note may be made on the method of recording the axis of cylinders ordered in prescriptions. Unfortunately, there are many markings in use. Examine a dozen trial frames of different makes and as many prescription forms: the variations found will be striking. An attempt has been made to obtain an international agreement, and the form arrived at can be appreciated by reference to the clock face. For each eye, right and left, the degree markings that correspond with the hour marks on the clock face are 0° at IX o'clock and 180° at III o'clock. Since this marking is obtaining a wide measure of acceptance it is worth while learning it, for if you use another it is likely your prescription will be transcribed by the optician, and errors may occur in transcription. In any case always mark the axis graphically as well as numerically, then the possibilities of error will be reduced to the minimum.

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A NOTE ON LYMPHADENOMA.

BY

GEORGE J. LANGLEY, M.D.LOND., M.R.C.P.,

ASSISTANT PHYSICIAN, SALFORD ROYAL HOSPITAL; PHYSICIAN, ANCOATS HOSPITAL, MANCHESTER.

THE following case, which has been under hospital observation almost throughout its clinical course, offers so many points of interest with regard to diagnosis that it may be worth while recording at some length.

G. K., a single man aged 24, had always been healthy except for an attack of scarlet fever at 7 years of age. There was no family history of tuberculosis or any other disease, nor of any other illness in the patient prior to enlistment in November, 1915. He was demobilized in May, 1919, having served two years in France and having been twice in hospital, once with tonsillitis in 1916, and once being invalided home with myalgia in 1917, recovery taking place in six months. After demobilization the patient returned to his civil employment as a grocer's assistant until November, 1919, when rheumatism in his shoulders and back caused him to give up work.

In January, 1920, he became an out-patient at a pensions hospital, but owing to the development of a left basal pleurisy he became too ill to attend. In March, 1920, a swelling was noticed in the right axilla, which quickly disappeared, only to be followed by similar swellings in the left axilla and right side of the neck. The patient became gradually very pale, lost weight, and grew progressively weaker, but was not entirely bedridden till admission to hospital on April 23rd, 1920. He then complained of night sweats, and rheumatism in the back, shoulders, and right knee.

Condition on Admission.

On admission the patient was pale and wasted, with obvious masses of enlarged glands in the neck. On examination, both sides of the neck and the submaxillary region were filled with enlarged discrete glands, very various in size from a pea to a walnut and with little or no periadenitis. Both axillae showed a similar condition and the right epitrochlear gland was as large as a filbert, but the left could not be felt. Both groins showed many enlarged glands extending along Poupart's ligament both above and below it. The popliteal glands could not be felt. There was a large crop of subcutaneous and intracutaneous nodules all over the right side of the chest wall, not crossing the mid-line in front nor the posterior axillary line

behind; some looked slightly inflamed with a hyperaemic apex. They varied in size from a hazel nut to just palpable masses.

The heart showed a cardiac dullness extending upwards to the third costal cartilage and to the right 1 in. beyond the right sternal edge, the apex beat was in the fifth space in the nipple line, cardiac sounds were feeble, and there was a precordial systolic murmur not conducted. The pulse rate was 116 per minute, regular, but of poor volume and low tension. Chest movements were normal and the breath sounds healthy, except for a slight friction rub at the right base productive of some pain and cough. Percussion resonance was normal, except over the manubrium sterni in front, and behind at the level of the fourth thoracic vertebra on both sides where resonance was diminished.

The liver dullness in the nipple line extended from the sixth rib to the costal margin where its edge was felt to be even, firm, and not tender. Splenic dullness in the mid-axillary line extended from the tenth rib to the tip of the organ, which was just felt below the ribs. In the right iliac fossa a mass of glands was felt resting against Poupart's ligament, and apparently continuous with the mass in the right groin. No other abnormality was detected in the abdomen. All reflexes were found to be normal; the urine was alkaline, specific gravity 1020, and it contained no albumin.

A skiagram showed the right diaphragm slightly raised, the size of the liver and spleen was not determined, the posterior mediastinum was somewhat obscured, probably by enlarged glands.

A blood count gave the following results:

Red blood corpuscles	4,500,000
White blood corpuscles	15,000
Haemoglobin	85 per cent.
Colour index	0.9
Polymorphonuclears	51 per cent.
Small lymphocytes	15 ,,
Large lymphocytes	22 ,,
Large hyalines	4 ,,
Eosinophils	9 ,,
Mast cells	0 ,,

My surgical colleague, Mr. Jefferson, kindly removed for histological examination (*a*) a gland from the left groin and (*b*) a nodule from the skin of the right chest wall.

On section both tumours showed the typical changes of lymphadenoma, with small giant cells containing three or four deeply-staining nuclei, a large number of eosinophils, and an increased fibrosis.

Throughout the whole illness the patient ran a temperature of about 101° F. at night and normal in the morning, except for about a fortnight in early July, when the temperature remained normal. At no time did he show the typical Pel-Ebstein temperature variation.

The patient was given large doses of arsenic for long periods and regular *x*-ray exposures. In spite of this, the course of the disease was slowly but progressively downwards. The only time of apparent improvement was during the period of apyrexia in early July. The *x*-ray treatment produced very considerable results on the glands, those in the neck completely disappearing, while those in the axillae and groins were very materially reduced. On the other hand, the cutaneous nodules were not at all affected and continued to grow slowly, desquamation and redness occurring over the larger ones in spite of protection by cotton-wool. In August a mass appeared at the second left chondro-sternal junction which appeared to rise from bone, and which grew to the size of half a Tangerine orange, being firmly fixed both to bone and skin. A few weeks later a mass appeared at the back of the neck which appeared to arise from the lower cervical vertebrae. In November a nodule the size of a walnut at the right anterior axillary fold broke down and ulcerated, having a crateriform, granulating, hyperaemic surface and a central yellowish slough. About this time a large, indefinite softish mass could be felt in the right lower abdomen which appeared to be an infiltration of the caecum and ascending colon. The liver and spleen became impalpable very shortly after commencing *x*-ray treatment, and the liver did not again become palpable till definite signs of cardiac failure with ascites and oedema had appeared; it was then firm and tender, but the spleen could not be felt.

The patient suffered much pain throughout the illness. In the chest this was due to transient pleural friction in the region of the liver or spleen. Pain in the long bones was complained of from time to time, but the chief pain was abdominal, although at no time was there any vomiting or bowel trouble. The patient was extremely anaemic throughout and became very emaciated. No symptoms of mediastinal pressure ever occurred. The masses arising from bone never appeared to cause pain. The total duration of the disease was almost exactly a year, death occurring at the end of November. Unfortunately permission for *post-mortem* examination was withheld.

The changes which occurred in the blood picture are indicated in the following table, with dates:

	May 22, 1920.	Aug. 6, 1920.	Oct. 31, 1920.
Red blood corpuscles	4,560,000	5,100,000	3,100,000
White blood corpuscles ...	15,000	27,500	32,500
Polymorphs	51 per cent.	69 per cent.	75 per cent.
Small lymphocytes	15 ,,	10 ,,	8 ,,
Large lymphocytes	22 ,,	6 ,,	10 ,,
Large hyalines	4 ,,	3 ,,	4 ,,
Eosinophils	9 ,,	11 ,,	3 ,,
Mast cells	—	—	—
Haemoglobin	85 per cent.	90 per cent.	60 per cent.
Colour index	0.9	0.9	1.0

The interest of this case lies in the difficulty of clinical diagnosis. The growths in the skin suggested at once that the case was not one of lymphadenoma but of lymphosarcoma. The absence of any marked splenic enlargement and the type of fever, which did not conform to the Pel-Ebstein sequence, strengthened the view of its malignant nature. On the other hand, the blood picture and the quite remarkable response to *x*-ray treatment strongly suggested lymphadenoma. The appeal to histological inquiry—the only possible method of arriving at a conclusion—quickly settled the nature of the disease, but helped not at all in explaining its unusual character.

The recognized occurrence of cutaneous nodules in lymphatic leukaemia added some support to the theory that the case might be regarded as the pre-leukaemic state of leukaemia, but such alteration of the blood picture as did occur was in a direction away from typical lymphatic leukaemia. The occurrence of tumour masses in the bones (manubrium sterni, vertebrae) suggested the possibility of lymphadenia ossium, but these masses appeared late as an incident in the disease, rather than as the basic fact of it.

The cutaneous masses remained discrete, and did not tend to coalesce. The single mass which ulcerated did not proliferate nor fungate, the process being very slow and apparently more due to pressure than to active growth. All this was very unlike the descriptions of mycosis fungoides. The blood picture corresponded in some measure with the findings of Bunting[1] in lymphadenoma cases, in that it showed a fall in lymphocyte and eosinophile count with a rise in polynuclears as the disease progressed. The occurrence of these tumour masses in skin and bone becomes more intelligible when they are considered in the light of the view put forward by Adami[2] that they are not to be regarded as metastases, but as hypertrophies arising in the lymphoid tissue of the perivascular sheaths. By this theory their occurrence in any site is explainable.

My thanks are due both to Dr. W. J. S. Bythell for *x*-ray reports and to Dr. C. E. Jenkins for much pathological help.

REFERENCES.

[1] Bunting: *Johns Hopkins Hospital Bulletin*, xxv, 1914, p. 173.
[2] Adami: *Principles of Pathology*, vol. i, p. 740.

A COURSE has been arranged by the London School of Medicine for Women for the instruction of qualified medical women in the treatment of venereal diseases at the Royal Free Hospital, the Elizabeth Garrett Anderson Hospital, and the London Lock Hospital. The course, which will begin on Tuesday, May 17th, at 10 a.m., when Mr. J. E. R. McDonagh, will give an introductory lecture on "Some aspects of the venereal problem," will extend over two weeks, concluding on Saturday, May 28th. The Ministry of Health recognizes attendance at this course as qualifying a medical practitioner who has pursued it to receive free drugs for the treatment of venereal diseases. Qualified medical women who wish to attend the course are asked to send in their names to Miss L. M. Brooks, warden and secretary of the medical school, not less than seven days before the course begins; the fee for the full course will be 5 guineas.

THE PHYSIOLOGICAL COST OF MUSCULAR WORK MEASURED BY THE EXHALATION OF CARBON DIOXIDE.*

BY

A. D. WALLER, M.D., F.R.S.,

AND

MISS G. DE DECKER.

THE following observations form part of a survey, upon which we have been engaged during the last three years, of the physiological cost of muscular work measured by the expiratory discharge of CO_2. The expenses of the inquiry have been in part met by grants received from the Royal Society and from the Medical Research Board, and during the last year from the Industrial Fatigue Research Board. Our results have been reported from time to time in the form of communications to the Royal Society and to the Physiological Society, and during the past year to this JOURNAL and to the Académie Royale de Médecine de Belgique.

These last communications, which are of the nature of reports to the Industrial Fatigue Research Board, have in our view a prospective medical as well as an industrial application, since our method of observation is, we believe, practicable in hospitals under conditions of abnormal metabolism as well as in factories and on the road under normal conditions. The method was described last year in this JOURNAL (April 17th, 1920) for the express purpose of enabling any unskilled observer to acquire and utilize it if so inclined, and need not therefore be redescribed now. The same paper contains the summary account of a week's observation made by Miss G. De Decker at the printing rooms of the BRITISH MEDICAL JOURNAL upon four compositors, showing as the average rate of energy output (gross) 103±2 kilo-calories per man per hour—that is, approximately 100 calories per hour (vide table below).

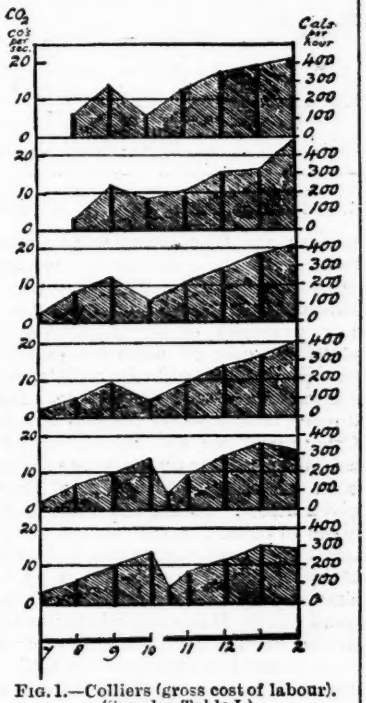

FIG. 1.—Colliers (gross cost of labour). (See also Table I.)

Our communication to the Belgian Academy of Medicine gave an account of the physiological cost of route marching upon four Belgian soldiers under service conditions, and showed as the average rate of energy output (net) 1/10th cubic centimetre of CO_2 per kilogram body weight per horizontal metre traversed.

Otherwise—if less precisely expressed—an average "fit" soldier (Belgian) marches under service conditions, with a load of 28 kilos, 16 kilometres (= nearly 10 miles) in four hours (= 50 minutes marching + 10 minutes rest per hour), at a net physiological cost of 1,000 calories, or 250 calories per hour.

The present communication deals with the energy output (A) of colliers during their work at the coal face; (B) of shoemakers during their work in the factory.

A. COLLIERS.

Our observations were taken at the Cwm Colliery, near Pontypridd, by courtesy of the Great Western Colliery Company, and our thanks are due to Mr. Rees, the manager, who made arrangements enabling us to take hourly observations upon two colliers, D. O. and H. K., during their actual work at the coal face in "getting coal" and loading it on trucks. Our procedure consisted in the hourly collection of expired air for 30 seconds; this was

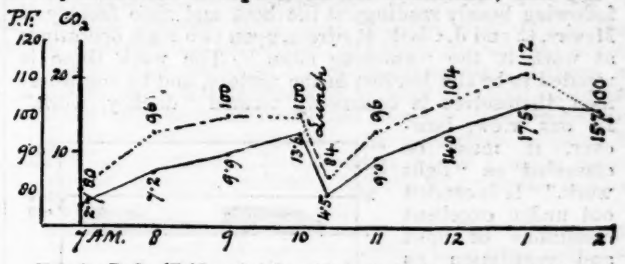

FIG. 2.—D. O. (Friday, October 8th.) Pulse frequency and CO_2 discharge taken simultaneously at hour intervals during seven hours' work at the coal face.

hardly felt as an interruption of work by the colliers, who lent themselves to the proceeding with the utmost goodwill. The work being "piece-work"—that is, the wage being dependent on the tonnage got, was practically maximal and constant. Its energy value came out lower than we had anticipated, a fact that must, we believe, be explained as being due to the skilled character of the work of coal getting. A pulse count was taken during each half-minute while the expired air was being collected, the plotted curve of pulse-frequencies proved to be remarkably similar to the plotted curve of CO_2 discharge throughout the day's work, which was from 7 a.m. to 2 p.m., with an interval of twenty minutes at 10 a.m. for "lunch" (bread and cold tea or water; no alcohol). (See Fig. 2.)

The CO_2 figures (c.cm. per second) and the pulse frequencies for the two colliers—D.O., aged 49, weight 61 kilos, and H.K., aged 43, weight 67 kilos—are recorded in Table I.

TABLE I.—*Showing Rate of Pulmonary Exhalation of CO_2 (c.cm. per second) and Pulse Frequencies of two Colliers at Cwm Colliery during three days' work at the Coal Face (Wednesday, Thursday, and Friday, October 6th, 7th, and 8th, 1920).*

Date and Subject.	Time: A.M.							P.M.	
	7	8	9	10	10.20	11	12	1	2
October 6th.									
D. O.	2.8	6.0	14.0	5.8	—	12.9	17.5	19.0	21.0
Pulse:	76	112	112	100	—	112	120	120	132
H. K.	—	3.0	12.0	7.8	—	10.6	15.2	16.0	23.9
Pulse:	—	72	88	76	—	100	100	100	100
October 7th.									
D. O.	2.5	8.4	11.2	6.0	—	10.9	14.0	18.6	20.6
Pulse:	76	88	96	84	—	96	110	120	110
H. K.	2.0	5.0	9.0	4.5	—	9.4	13.5	16.2	20.0
Pulse:	72	80	80	72	—	84	100	100	100
October 8th.									
D. O.	2.7	7.2	9.9	13.6	4.5	9.0	14.0	17.5	15.7
Pulse:	80	96	100	100	84	96	104	112	100
H. K.	3.0	6.1	10.3	13.4	4.1	8.2	11.6	15.2	14.0
Pulse:	72	76	84	96	76	84	86	96	86

From 10 to 10.20 a.m. there was an interval for lunch; on the third day samples were collected at beginning and end of this interval. The pulse frequencies were taken during collection of samples.

Summary.

	Estimated Output of Coal per Man per 7 hours.	Total Cost gross CO_2 Exhaled in 7 hours.	CO_2 per hour (gross)	Calories per hour.	
	Tons.	Litres.		Gross.	Net.
October 6th.					
D. O.	4.5	313.5	44.8	262	202
H. K.*	4.5	315.0	45.0	264	198
October 7th.					
D. O.	4.0	290.3	41.5	243	183
H. K.	4.0	246.9	35.3	207	141
October 8th.					
D. O.	3.5	256.6	36.7	216	153
H. K.	3.5	230.4	32.9	193	127
Average net cost =					168

* Allowance made for the first hour when no observation was taken.

The present communication deals with the energy output (A) of colliers during their work at the coal face; (B) of shoemakers during their work in the factory.

The substance of a report to the Industrial Fatigue Research Board.

B. SHOEMAKERS.

By courtesy of Mr. Francis J. Clark we have taken the following hourly readings at the boot and shoe factory of Messrs. C. and J. Clark, at Street, upon two male operatives at work in the "finishing room." The work there is reputed to be the hardest in the factory, and by the workmen themselves is commonly termed "donkey work." In our view, however, it must be classified as "light work." It is carried out under excellent conditions of light and ventilation as "piece-work"—that is, there is no liability to lose time—in a room 220 ft. by 120 ft. by 12 ft., intended to accommodate 400 workmen (64 square feet of floor space per man), but in which there are at present only half that number. By reason of the actual slackness of trade these men are working only three days per week, but earning all they can during their time of work, so that the actual pressure of work by the individual workman may be regarded as maximal. The results are tabulated below.

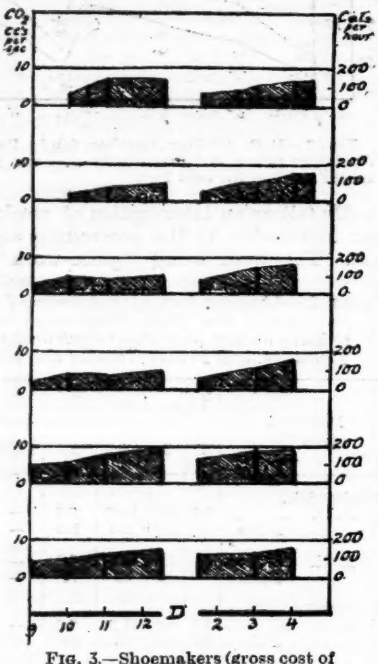

FIG. 3.—Shoemakers (gross cost of labour). (See also Table II.)

From the figures obtained we calculate as the average physiological cost (gross) per man 6.2 c.cm. CO_2 per second, or 124 calories per hour. We hesitate to give even an approximate estimate of net cost, since we did not take resting or basal values, and the error incurred by assuming average values might be very large. Nevertheless, in order to allow of their inclusion in our general table, we give with due reservation the approximate net values per man and per square metre of body surface for this work, which obviously, in comparison with the values for dock labourers and cold-storage labourers, are exceedingly low, of the same order as the values observed for tailors and printers.

The CO_2 figures for the two subjects—C. S., aged 54, weight 70 kilos, and W. P., aged 49, weight 67 kilos—are recorded in Table II.

The relative energy output of colliers and of shoemakers comes out from our observations as three times greater for the former than for the latter—namely, 96 calories per hour per square metre of body surface in the case of colliers, and 32 calories in the case of shoemakers. The relation of their energy output to that of other workers whom we have measured during the last two years is exhibited in the following table and graphs (Fig. 4). For purposes of strict comparison it is necessary to state the cost of work by individuals of different bulk in units per kilo of body weight, or preferably in units per square metre of body surface. But for practical purposes during investigation we find it useful to think in terms of CO_2 (gross) per second, which we translate at once into calories per hour by using the factor $\times 20$. Our data have been presented under both of these forms in the graphs given below. In the left-hand graph the gross results are given in c.cm. CO_2 per second (and calories per hour); the basal or subsistence values assumed at 1 c.cm. per 20 kilos of body weight are shaded black; the remaining portions shaded grey indicate net cost per individual. In the right-hand graph these net values per individual are reduced to the common denomination of net values per square metre.

In connexion with this last table in which we have summarized the results of all the observations we have taken of various classes of "manual workers" during the last

TABLE II.—*Showing Rate of Pulmonary Exhalation of CO_2 (c.cm. per second) of two Male Operatives at the Boot and Shoe Factory of Messrs. C. and J. Clark, Ltd., Street, Somerset, during three days' work in the "Making-up Room" (Monday, Tuesday, and Wednesday, March 21st, 22nd, and 23rd, 1921). From 12.30 to 1.30 interval for dinner.*

Date and Subject.	Time: A.M. 9	10	10.30	11	P.M. 12.30	1.30	2.30	3	4	4.30
March 21st. C. S. ...	—	3.4	5.6	7.0	7.0	3.3	4.1	5.8	6.8	7.0
W. P. ...	—	2.0	2.7	3.5	5.0	2.3	5.0	5.4	7.1	7.5
March 22nd. C. S.* ...	3.0	5.0	—	4.0	5.4	4.1	—	7.5	8.0	—
W. P. ...	2.3	4.2	—	3.8	5.0	2.9	—	5.4	8.0	—
March 23rd. C. S. ...	5.0	5.6	—	7.5	8.2	6.6	—	8.7	8.7	—
W. P. ...	4.2	5.0	—	6.3	7.5	6.0	—	6.7	7.5	—

* The pulse frequencies of C. S. = 80 during the morning and 100 during the afternoon; those of W. P. = 72 throughout the day.

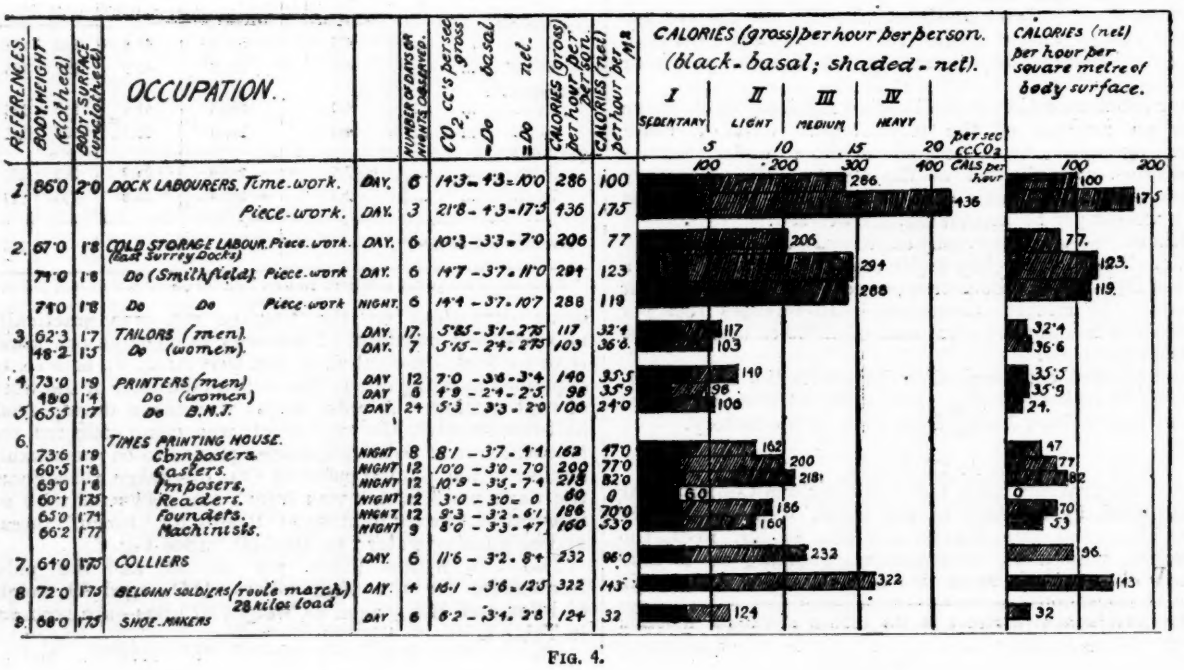
REFERENCES.
BODY WEIGHT (Clothed)
BODY SURFACE (unclothed)
OCCUPATION.
NUMBER OF DAYS OR NIGHTS OBSERVED.
CO2 cc's per sec gross
basal = Do
net = Do
CALORIES (gross) per hour per person.
CALORIES (net) per hour per sq. m.
CALORIES (gross) per hour per person. (black - basal; shaded - net).
I SEDENTARY
II LIGHT
III MEDIUM
IV HEAVY
per sec cc CO2
CALS per hour
CALORIES (net) per hour per square metre of body surface.
1. 86·0 2·0 DOCK LABOURERS. Time-work. DAY. 6 19·3 - 4·3 = 15·0 286 100
Piece-work. DAY. 3 21·8 - 4·3 = 17·5 436 175
2. 67·0 1·8 COLD STORAGE LABOUR. Piece-work (East Surrey Docks) DAY. 6 10·3 - 3·3 = 7·0 206 77
74·0 1·8 Do (Smithfield). Piece-work DAY. 6 14·7 - 3·7 = 11·0 294 123
74·0 1·8 Do Do Piece-work NIGHT. 6 14·4 - 3·7 = 10·7 288 119
3. 62·3 1·7 TAILORS (men). DAY. 17. 5·85 - 3·1 = 2·75 117 32·4
48·2 1·5 Do (women). DAY. 7 5·15 - 2·9 = 2·25 103 36·6
4. 73·0 1·9 PRINTERS (men) DAY 12 7·0 - 3·6 = 3·4 140 35·5
49·0 1·4 Do (women) DAY 6 4·9 - 2·4 = 2·5 98 35·9
5. 65·5 1·7 Do B.M.J. DAY 24 5·3 - 3·3 = 2·0 106 24·0
6. TIMES PRINTING HOUSE.
73·6 1·9 Compositors. NIGHT 8 8·1 - 3·7 = 4·4 162 47·0
60·5 1·8 Casters. NIGHT 12 10·0 - 3·0 = 7·0 200 77·0
69·0 1·8 Imposers. NIGHT 12 10·9 - 3·5 = 7·4 218 82·0
60·1 1·75 Readers. NIGHT 12 3·0 - 3·0 = 0 60 0
65·0 1·74 Founders. NIGHT 12 9·3 - 3·2 = 6·1 186 70·0
66·2 1·77 Machinists. NIGHT 9 8·0 - 3·3 = 4·7 160 53·0
7. 64·0 1·75 COLLIERS DAY. 6 11·6 - 3·2 = 8·4 232 96·0
8. 72·0 1·75 BELGIAN SOLDIERS (route march) 28 kilos load DAY. 4 16·1 - 3·6 = 12·5 322 143
9. 68·0 1·75 SHOE-MAKERS DAY 6 6·2 - 3·4 = 2·8 124 32
286
436
206
294
288
117
103
140
98
106
162
200
218
60
186
160
232
322
124
100
175
77
123
119
32·4
36·6
35·5
35·9
24·
47
77
82
0
70
53
96
143
32

FIG. 4.

two years, we desire to call particular attention to the grading we have been led to adopt in accordance with nature of work. Expressed in terms of cubic centimetres CO_2 exhaled per second (gross) and of the approximate caloric expenditure thereby signified, our grading is as follows:

	C.cm. CO_2 per Second.	Calories per Hour.
I. Sedentary work	Below 5	Below 100
II. Light...	5 to 10	100 to 200
III. Medium	10 to 15	200 to 300
IV. Heavy	15 to 20	300 to 400
(Heaviest)	(Above 20)	(Above 400)

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INTERMITTENT ALBUMINURIA IN CHILDREN.

BY
F. MOOR, M.A., M.B., B.CH.CANTAB.

By the term intermittent albuminuria is meant the condition in which a specimen of urine passed at one time of day is found to contain albumin, whereas a specimen from the same patient at another time of day is free from it. This condition is well known, and has been called by several names, of which cyclic, postural, orthostatic, lordotic, functional, and physiological are the commonest. Albuminuria is present only if the patient is up and about, and is absent if he remains in bed.

Etiology and Pathology.

Albuminuria is much more common in children than is generally supposed.

Samuel West[1] quotes the following figures for boys between 10 and 18 years of age:

Author.	Number Tested.	Percentage with Albuminuria.
Stirling	369	20.8
Ribbert	240	22.0
Dukes	Many years' experience	22 at least
Grainger Stewart... ...	100	17.0

Stirling also shows that the incidence increases from the age of 12 to 15, and then decreases. Leslie Thorne Thorne[2] states that out of 1,890 boys between 9 and 16 years 9.1 per cent. had albuminuria; of these only fifteen (or 0.8 per cent.) had definitely hypertrophied hearts and increased arterial tension.

On examining the urine of 397 boys between 8 and 14 years of age at Vauxhall Street Elementary School I found albumin in 91 of the specimens (that is, 23 per cent.). The tests were carried out between 10 and 12 o'clock in the morning, the method employed being to add four drops of a concentrated solution of salicyl sulphonic acid to half an inch of urine in a test tube. The following table gives the age incidence in this series; no attempt was made to discover how many of these cases were intermittent.

Age	8	9	10	11	12	13	14
No. of cases	82	63	65	54	63	62	8
Percentage with albuminuria	12.5	17	22.5	24.5	31	30	50

With regard to sex incidence, it is generally assumed that albuminuria is commoner in boys, but there does not seem to be any evidence on the subject; out of 16 cases of intermittent albuminuria studied at the Evelina Hospital for Children, only 4 were boys. In regard to age, the youngest case I have seen was a girl of 5½; the condition is said to be very rare after 20.

Most authors agree that children with intermittent albuminuria are debilitated, and some French physicians[3] ascribe the condition to "pretuberculosis." Others lay stress upon the presence of lordosis in these cases, and Jelle[4] goes so far as to say that he can produce albuminuria in normal children or prevent it in orthostatic children by mechanical means. In 6 cases in which I made special note of the spinal curvature, lordosis was present in 4 and absent in 2.

As intermittent albuminuria is not a fatal disease very few accounts of *post-mortem* findings have been published. Langstein[4] describes a case of orthostatic albuminuria, which died of cerebral tumour, in which no abnormality was found in the kidneys either macroscopically or microscopically.

Several theories have been advanced to account for this condition, but each of them has the disadvantage of not explaining all the cases; the following are some of the best known:

1. That it is due to congestion of the kidneys, either by pressure on the renal veins or from some vasomotor abnormality.
2. That it is due to diminished coagulability of the blood, and is related to chilblains and urticaria, and may be cured by administration of calcium lactate for a few days.
3. That it is an early manifestation of tuberculosis.
4. That it is one of the neuroses of childhood.

Character of the Urine.

The amount of urine passed in two cases admitted as in-patients to the Evelina Hospital was found to be normal, more being secreted by day than by night.

The specific gravity varies between wide limits in individual cases. The albumin also varies in amount, but is seldom more than 0.05 per cent. by Esbach's method. It is generally absent from the morning specimen, and absent if the patient remains in bed; but in one of the cases treated as an in-patient a cloud of albumin was present in the morning specimen on one occasion, and the child had a temperature of 100° the same evening, for which no cause could be found; neither the morning albuminuria nor the pyrexia recurred. The other case admitted to hospital developed a very severe attack of gastro-enteritis, passing blood in the stools; one of the specimens obtained during this illness contained albumin although the patient was in bed. In patients who are up and about the amount of albumin increases to a maximum during the day, the time at which this is reached being constant in any individual case, so that one child would always have a trace at midday and a cloud in the evening, whilst another would always have a cloud at midday and none in the evening. In some cases a precipitate is formed in the cold by adding a few drops of acetic acid to the urine; some authors state that this is pathognomonic of intermittent albuminuria, but it is not present in all cases, and is sometimes found in other conditions such as cyclic vomiting and cardiac failure of diphtheria. The formation of this precipitate is slow, so in all probability it is often overlooked. Probably more than one substance is precipitated in this way, for in most specimens the cloud thus formed is increased by boiling, but in a few cases it disappeared on heating to re-form very slowly after cooling.

Casts are sometimes found in cases that appear to be simple intermittent albuminuria; hyaline types are commonest, although granular and epithelial are sometimes seen. Out of nineteen specimens of urine containing albumin from boys at Vauxhall Street School epithelial casts were found in one specimen, granular in four, and hyaline in one. Blood was not found in any of these cases, nor in any of those seen at Evelina Hospital.

Symptoms and Signs.

There can be no doubt that many cases occur without symptoms. There does, however, seem to be a syndrome associated with intermittent albuminuria which is quite characteristic but difficult to describe. Heubner says: "There is considerable atony and lassitude, which deprive these children of all joyfulness, alacrity, and pleasure of work." The patient generally cries when examined, and whimpers or "grizzles" a great deal at home; he is easily tired, and prefers sitting down to playing about. These children are subject to headaches and "bilious attacks," but are not constipated; they sleep well, and do not want to get up in the morning.

The children are asthenic and their pupils are unusually large; beyond this nothing was constantly found among the 16 cases at Evelina Hospital. The heart was enlarged in 2 cases only and the exercise tolerance was normal in

the 4 cases which were tested. The lungs presented abnormal signs in 6 cases, but none of these could be labelled phthisis; cough was not complained of. The blood pressure was found to be high in some cases—for instance, 140 mm.—and low in others, and the same may be said of the pulse pressure. Retinitis was not present in any case. Some of the children were pale but others had rosy cheeks. In most cases albuminuria was the only abormality.

Renal Efficiency Tests.

The urea concentration test was carried out on 7 patients; this test, described by MacLean,[5] consists of giving urea by mouth and estimating its concentration in the urine one and two hours later.

In every case the renal efficiency was normal, both when albumin was present and when it was absent. The following tables give the results in detail:

Patient.	Date.	Time.	Amount of Urine.	Albumin.	Urea percentage.
	1920.		c.cm.		
V. W., aged 8. In bed. 10 grams urea given in 2 oz. water at 10 a.m.	Oct. 13	10 a.m.	—	0	1.1
	,,	11 a.m.	113	0	2.5
	,,	12 noon	78	0	3.1
Same patient up; bed at 5 p.m. Same dose of urea at 4 p.m.	Oct. 22	4 p.m.	—	+	1.0
	,,	5 p.m.	31	++	2.8
	,,	6 p.m.	40	+	3.6
B. L., aged 9. 10 grams urea given at 2 p.m. Patient up and about.	Oct. 14	Morning	—	0	2.9
	,,	2 p.m.	—	±	1.75
	,,	3 p.m.	51	±	3.0
	,,	4 p.m.	40	+	4.5
D. R., aged 6. 7.5 grams urea at 10 a.m. Patient up and about.	Oct. 25	10 a.m.	—	±	0.3
	,,	11 a.m.	173	0	0.8
	,,	12 noon	53	0	2.25
E. L., aged 9. 10 grams urea at 10.15 a.m. Patient up and about.	Oct. 23	10.15 a.m.	—	+	1.2
	,,	12.15 p.m.	—	+	2.35
P. L., aged 13. 10 grams urea at 11 a.m. Patient up and about.	Oct. 27	Morning	—	0	1.1
	,,	11 a.m.	—	+	2.3
	,,	12 noon	46	+	2.8
	,,	1 p.m.	33	0	3.8
H. H., aged 11. 10 grams urea at 3.5 p.m. Patient up and about.	Oct. 15	3.5 p.m.	—	+	1.6
	,,	4.5 p.m.	16	±	1.95
	,,	5.5 p.m.	62	0	2.65
D. B., aged 15½. 5 grams urea at 9.45 a.m. Patient up and about.	Nov. 3	Morning	—	0	3.35
	,,	9.45 a.m.	—	+	0.6
	,,	10.45 a.m.	65	0	1.2
	,,	11.45 a.m.	24	±	2.85
M. H., aged 6. 5 grams urea at 10 a.m. Patient up and about.	Oct. 13	10 a.m.	—	+	0.7
	,,	11 a.m.	51	++	1.5
	,,	12 noon	33	++	2.0

The following results in a case of chronic nephritis are given for comparison with the above. It will be seen that the kidneys are unable to concentrate urea to more than 1.1 per cent.

Patient.	Date.	Time.	Amount of Urine.	Albumin.	Urea percentage.
	1920.		c.cm.		
D. R., aged 5½. In bed. 7.5 grams urea at 11.30 a.m. and 12.50 p.m.	Oct. 14	11.30 a.m.	—	0.05 %	1.0
	,,	12.30 p.m.	85	++	1.1
	,,	1.30 p.m.	85	++	0.75
	Oct. 25	12.50 p.m.	—	++	0.8
	,,	1.50 p.m.	71	++	0.7
	,,	2.50 p.m.	64	++	0.7

The blood urea test was not performed.

Diagnosis.

In children, as in adults, albuminuria is only one sign of nephritis. Intermittent albuminuria is scarcely likely to be mistaken for acute nephritis, for the amount of urine passed in the former is not diminished; it contains few, if any, casts and no blood, and there is no oedema; moreover, albumin is absent from the specimen passed on rising in the morning. The same features differentiate it from the hydraemic type of chronic nephritis (chronic parenchymatous nephritis). From the azotaemic type (chronic interstitial nephritis) it is distinguished by the fact that the amount of urine is increased and its specific gravity is low in the latter; also the cardio-vascular system may show changes and retinitis may be present. The urea concentration test gives normal values—that is, above 1.5 per cent. in the second hour—in intermittent albuminuria, whereas the figure is low in interstitial nephritis. It is said that during convalescence from acute nephritis albuminuria may be intermittent or orthostatic in type. Langdon Brown says that intermittent albuminuria may be differentiated from chronic nephritis by the fact that the administration of calcium lactate will check the former; this drug was tried in two cases, but had no effect. The albuminuria which occurs after violent exercise need not be discussed here.

Prognosis.

The prognosis seems to be largely a matter of personal opinion. Thus Taylor observes that bank clerks with orthostatic albuminuria are more often on sick leave than those without. Langstein sums up by saying, "There is a certain degree of inferiority in individuals affected with orthostatic albuminuria . . . as is illustrated by the fact that they are frequently a prey to tuberculosis." On the other hand, Clement Dukes,[6] whose observations cover a long period, does not consider the outlook at all gloomy.

Conclusions.

1. Intermittent albuminuria is a common condition amongst children.
2. It is not a form of kidney disease.
3. It is called by so many different names, and there are so many theories about it that it is probably not a specific morbid entity, but a symptom of several diseases.

I am indebted to Dr. Boome for permission to publish the figures from Vauxhall Street School, and to the Headmaster, Mr. J. J. Thompson, for allowing me to test his boys and for the personal assistance he rendered in collecting the specimens.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

AN UNUSUALLY VIRULENT VARIETY OF MICROSPORON.

A BOY, aged 13, had ringworm patches on the scalp, face and neck in July, 1917. Mycelium was found in scales, and the microsporon collar on hairs. A younger brother soon acquired the disease in multiple patches. Cultures were readily obtained of the same organism in both.

Macroscopic: On wort agar at summer room temperature it forms a round pinkish colony elevated towards the centre where there is a dimple from which numerous fine ridges radiate outwards like the gills of a mushroom. In about a week the surface shows numerous spiky projections which gradually develop white tufted summits like sheaves of corn.

On potato the culture is snow-white and furry without ridges or red colour. On neutral malt extract gelatine growth is as on potato with liquefaction in fourteen days. Though growth is coarser on wort agar, the same elements are found on all three.

Mircoscopic: Mycelium distinct, branching and septate, colourless; in a seventy hours' culture the larger hyphae (2 to 3 μ) often show pyriform swelling at the septa; in older cultures some hyphae show multiple septation into oidium-like elements (pseudoconidia). The snow-white surface of cultures consists of fertile aerial hyphae, many of them fasciculated into spiky projections, which branch near the tip to bear conidia. The conidiophores carry numerous colourless rounded conidia, 2 to 3 μ in diameter, unicellular, solitary, terminal, with a facet of articulation when detached. In hanging drop these readily

sprout. Chlamydospores are uncommon, usually arising by septation at the swellings on the hyphae. Septate spindles are infrequent, little divided or only bicellular, usually rough, 6 to 8 × 15 to 30 μ in size, and often constricted at the septa.

No pectinate hyphae or conspicuously whip-like branchlets were seen. In these respects, in the absence of red colour on potato and in earlier liquefaction of gelatine, it differs from a typical microsporon. I attach more importance to the pyriform swellings on the mycelium than to any or all of these; and it is on this character, together with its special pathogenicity, that I rely for referring the organism to microsporon. There have been observed in the equine microsporon the smooth culture (endoconidial form) and the chalky culture (oospora or streptothrix form), and in most microsporons the well known downy culture (acladium form) and the septate spindle (macrosporium form). My description is that of a furry culture in which the *branching* conidiophore cannot belong to any of these, but may be referred to a depauperate verticillium type—for example, *V. nanum*.

Under pathogenic conditions the ringworms produce only mycelium and oidium-like elements (pseudoconidia). The latter are formed by multiple septation of the already sparsely septated mycelium, and serve for dissemination of the disease and for infection of others. In cultures there are always, as well as these, one or several of the conidial forms mentioned above. These conidia, suitable for dissemination by wind or animals, carry on the saprophytic life. Sporadic cases, especially after injury or a scratch, are suggestive, and we assume that sporotrichosis usually arises in this way.

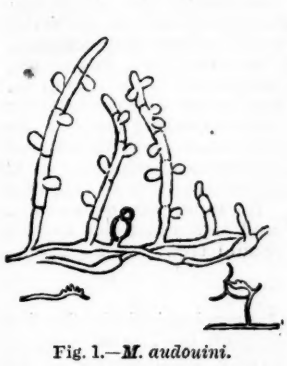

Fig. 1.—*M. audouini.*

Fig. 2.—New variety.

Fig. 1 shows *M. audouini;* Fig. 2 the new variety, with the projecting spike considerably shortened.

West Ealing. ROBERT CRAIK.

RETENTION OF URINE DUE TO HAEMATOCOLPOS AND HAEMATOMETRA IN A CHILD.

I was asked to see a girl, aged 11, who was unable to pass urine. I found that the bladder was the size of an eight months pregnancy. She was removed to a private hospital near, and ether was administered. The vagina was found to be occluded by a thick leathery hymen. A catheter was passed and the hymen incised crucially; a large quantity of retained menstrual material evacuated under considerable tension. Recovery was uninterrupted. The mother was instructed as to the necessity for keeping the vagina patent.

This appears to be a rare cause of retention of urine in a child; naturally the absence of menstruation had given no cause for anxiety.

Malvern, Natal. J. K. HAWORTH, M.S.Durh.

HERPES AND VARICELLA.

ON March 26th a solicitor, aged 78, consulted me for what he considered an attack of gouty eczema. I found him with a profuse herpetic eruption along the left anterior crural nerve. There was at that date one decapitated pustule on the forehead, but that I discounted because he had been using silver nitrate as a caustic for two adjacent moles. During the next few days, however, he developed successive crops, on scalp, trunk, and limbs, of what was to all appearances a typical varicella eruption. We have in the neighbourhood a certain number of cases of varicella at the present time.

Hove. DONALD HALL.

Reports of Societies.

HYPERTONIC SALINES IN THE TREATMENT OF CHOLERA.

AT a meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine on May 2nd Sir LEONARD ROGERS gave a further account of results, obtained in India, of the hypertonic saline treatment of cholera. What he had to say on this occasion was almost entirely statistical. After a reference to his earlier papers on the subject (BRITISH MEDICAL JOURNAL, September 24th, 1910, page 835), he said that he proposed to bring forward more particularly that evening the evidence relating to the last five years covered by his records (1915–19), during which the treatment had been modified by the addition of alkalis. His communication will best be summarized by reproducing the table which he gave at the close:

Period.	Method of Treatment.	Mortality.	Recovery.
1895–1905	Rectal and subcutaneous salines...	59.0%	41.0%
1906	Normal salines intravenously ...	60.9%	39.1%
1907	Rectal and subcutaneous salines...	59.5%	40.5%
1908–09	Hypertonic salines intravenously	32.6%	67.4%
1909–14	Hypertonics *plus* permanganates	25.9%	74.1%
1915–19	Hypertonics *plus* permanganates and alkalis	20.8%	79.2%

The patients dealt with in this last period (1915–19) numbered 1,429, of whom 298 died. A point on which he laid particular stress was the reduction of mortality from uraemia as the result of the use of alkalis.

Out of 592 cases treated without alkalis in 1911–14, the total deaths were 152, and the uraemia deaths 66, a proportion of uraemia deaths to cases of 11.1 per cent.; of 584 cases treated with alkalis in 1915–17, the total number of deaths was 115, and of uraemia deaths 19, or 3.25 per cent., showing a reduction of mortality from uraemia of 70.7 per cent.

Sir Leonard Rogers pointed out how many factors had to be reckoned with in making comparisons and arriving at prognostic indications. The figures must not be taken haphazard without regard, for example, to seasonal variation. Cholera mortality in India was highest at the end and beginning of the year, and lowest in the rainy season; thus in cases treated before the hypertonic saline method was introduced the mortality might be somewhere about 72 per cent. in December and 48 per cent. in July. The same seasonal curve of mortality held good in the cases treated by the hypertonic saline method, although, of course, the mortality as a whole was reduced. The same fact emerged from a study of the mortality in relation to age. The effect of the new treatment as given in the last four years covered by his records was greatly to reduce the mortality in the middle-age periods—for example between ten years and fifty years—though among the very young and the very old the mortality was still comparatively high. It was also necessary to take into account the stage of the disease at the time of the patient's admission. Sir Leonard Rogers showed tables correlating all these factors, as well as tables illustrating the corpuscular changes in the blood in cholera in relation to the effect of the injections, and, yet again, the records of rectal and axillary temperatures. Not until the rectal temperature was down to 98° F., or the axillary temperature to about 96°, did the mortality begin to be marked, but immediately below these levels it became very marked indeed. In another table he showed the number of saline injections per case and the mortality.

In 1912, when the cases showed the highest mortality in any year from 1912 to 1919 (31.7 per cent.), 71 per cent. of the patients had only one injection or no injection at all. Then the plan of increasing the number of injections was followed, and in the next year, when 42 per cent. had two injections, and 26 per cent. had three or four injections, the mortality fell to 24 per cent.; while in 1917, when the mortality was lowest in this group of years (14.6 per cent.), the cases which had three or four injections were 63.3 per cent. of the whole.

In reply to questions, Sir Leonard Rogers said that the hypertonic saline was very useful in cases of black-water fever. He also gave some experiences of cholera incidence. Cholera outbreaks followed a certain cycle. Should there be a high incidence in one year, there was unlikely to be a large outbreak the following year, even though the conditions favoured cholera, but it did not follow that when there were few cases the virulence among those attacked was less; indeed, when there were a large number of cases the mortality was rather lower.

The Ankylostomiasis Campaign in Egypt.

At the same meeting a paper by Dr. A. F. MACCALLAN on the ankylostomiasis campaign in Egypt was read in his absence. The campaign, which took place from 1913 to 1915, was carried out by means of travelling hospitals in towns and villages, and by surveys of the population and attention to sewage disposal and other measures. In the province in which the campaign was concentrated, the number of specimens examined was 4,445, representing about 1 per cent. of the male population; the investigation was restricted to males on account of the difficulty of examining women in Egypt. The number of patients treated, mainly by thymol, was nearly 2,000. All the ankylostomiasis hospitals had to close early in 1915 on account of the war, and the experiment came to a premature conclusion. The author laid down certain lines which should be followed in any resumption: (1) A knowledge must be obtained of the habitat of the larvae, which infected man by piercing his skin; (2) a workable system of village sanitation, entirely unknown at present, must be evolved; (3) a further investigation into the nature and mode of action of the ankylostomiasis toxins must be undertaken. He found no difficulty in interesting the people in the campaign.

Dr. J. B. CHRISTOPHERSON said that the three chief plagues of Egypt—ankylostomiasis, bilharziasis, and *Taenia nana*—were all agricultural diseases, not diseases of the towns, and therefore the appropriate plan of campaign was obviously the peripatetic hospital.

SURGERY OF THE RIGHT ILIAC FOSSA.

AT a meeting of the South Essex Division of the British Medical Association on March 11th Mr. J. E. ADAMS, surgeon to St. Thomas's Hospital, gave a lecture on "Some points in the surgery of the right iliac fossa," of which the following is a summary:

Appendicitis.

If the case is seen within twenty-four hours of onset, operate at once; under such conditions the case mortality is a fraction of 1 per cent. If the diagnosis is not decisive, treatment should be (1) Fowler position, (2) starvation, and (3) no aperients. The Fowler position ensures any secondary peritoneal infection being confined to the pelvic peritoneum, which is undoubtedly more resistant and less liable to infection; (2) nothing should be given by the mouth, except perhaps cold water to assuage thirst, but even this can be controlled by saline rectal injections if a nurse is available; (3) no aperient should be given, because the desire is to inhibit peristalsis and thus ensure rest for the bowel. On the other hand, it is better not to give morphine, because the symptoms will then be masked. By waiting twenty-four hours any ordinary colic will have subsided under such treatment. If symptoms persist, then operate. The operation to be performed will depend on the condition found. If simple, the ordinary removal of the appendix. If an abscess is present, open and drain, and do the ordinary removal later. If there is an inflammatory mass, leave in a tube and, six weeks or so later, do the ordinary removal. The actual performance of the operation should occupy as little time as possible.

Ileo-caecal Tuberculosis.

This condition will occasionally be met with when operating for appendicitis. Its symptom-complex is as follows: A patient, aged between 20 and 40, whose general health is fairly good, will come complaining of a swelling in the right iliac fossa, which gives more or less continual discomfort, but little actual pain. On examination a tumour is found—firm, nodular, movable, cylindrical. The patient will probably also speak of constipation, and perhaps of nausea and vomiting. The treatment is to remove the caecum and parts of the ileum and ascending colon—a modification of Friedrich's operation—doing an end-to-end or end-to-side anastomosis between the ileum and transverse colon. Results of this treatment are often very good, but a fatal termination may come from generalized dissemination of the infection.

Carcinoma of the Caecum.

The prognosis here is better than in all other parts of the intestinal tract with the exception of the rectum. The probable explanation is that the patient either discovers a tumour himself or diagnoses his case as appendicitis, and thus he seeks advice reasonably early. In suitable cases a widespread removal in the manner of Friedrich's operation is easily accomplished and glands are removed *en masse* with the bowel. In those cases where the growth is annular, obstruction may be the first manifestation of serious ill health, and the treatment of acute obstruction in this condition is very difficult. The best plan is to divide the ileum a short distance above the ileo-caecal valve and implant its upper end into the adjacent pelvic colon, and bring the distal end of the ileum out of the wound. In this way the obstruction may be overcome and the patient saved from absorption of septic material locked up between the ileo-caecal valve and the growth. This has frequently been the cause of death in cases treated by ileostomy alone. If the lower end of the ileum is fixed in the wound irrigation can be carried out by means of a catheter passed through the valve. If a good recovery is made from obstruction, resection of the whole growth and bowel may be carried out later.

Caecoptosis.

The mobile caecum does not necessarily give rise to any symptoms. If it does do so these may be referred to the upper abdomen, and frequently the patient may complain of "indigestion." Gastric and duodenal ulcer, gall stones, Dietl's crises, and appendicitis may all be simulated by an abnormally mobile caecum, and some authorities look upon prolapse of the caecum and ascending colon as the initial lesion in these diseases. Treatment may be effected by a suitable belt or by operative fixation (colopexy). If operation is done, a well fitting belt or corset is an essential part of the after-treatment. In most of the cases a psychical element is present, and this must not be lost sight of by the surgeon who would treat these patients successfully.

WITH regard to the apparatus for mechanical distribution of reagents in the final Wassermann test, mentioned in the JOURNAL last week as having been shown at the pathological meeting of the Liverpool Medical Institution on April 14th, Professor E. GLYNN stated that one source of error in the Wassermann reaction was inaccurate measurement of the reagents used in the final test. In No. 4 technique of the Medical Research Council fifty Wassermann tests necessitated the distribution of 600 $\frac{1}{2}$ c.cm. or $\frac{1}{4}$ c.cm. doses of various fluids with a pipette or burette, if the drop method was not used. This distribution took a considerable time, and there was often considerable error from fatigue or boredom. He had devised a semi-automatic machine which simultaneously filled twelve Wassermann tubes with $\frac{1}{2}$ c.cm. doses of any reagent, a rack containing thirty-six tubes being filled in a few seconds. It was impossible to distribute more or less than $\frac{1}{2}$ c.cm. at a time. The error of the machine was tested with distilled water at 15° C. The maximum error was apparently ± 3 per cent., and the average ± 1 per cent.; this was at least half the error obtained with pipettes or burettes when only twelve doses not 600 were distributed, and more than the usual precautions were taken in measuring. One reason for the accuracy of the apparatus was the fact that often after the expulsion of each dose no drop remained behind on the nozzles. He had also devised a syringe for distributing automatically three $\frac{1}{2}$ c.cm. doses of the diluted serum of the patient. This syringe was accurate, and also left no drops. After using a given diluted serum the syringe was washed out twice with saline before taking the next serum. Salicyl-sulphonic acid, which would detect one part of albumin in 10,000, produced no turbidity with a third washing.

THE first departments of the Jerusalem University to be opened will deal with microbiology and medical research, and the Jerusalem University Library Committee in this country asks for gifts of books, sets of scientific journals and transactions, and official reports bearing on these subjects, and also for good textbooks of established repute. Communications may be addressed to Mr. D. B. Stanhill, B.Sc., 75, Great Russell Street, London, W.C.1.

Reviews.

BAYLISS'S "GENERAL PHYSIOLOGY."

THE success of Professor W. M. BAYLISS'S *Principles of General Physiology*[1] is proved by the appearance of a third edition two years after the second and four years after the first of this truly philosophic and encyclopaedic work, and this in spite of the obstacle that it is of necessity rather highly priced, at any rate as judged by pre-war standards, for the student. It is so pleasantly and fairly written, so complete without being tedious, and the summaries at the end of the sections are so clear that it recalls the advice given more than thirty years ago by a well-known hospital physician to a student's inquiry for the best book on medicine to read: "*Foster's Physiology.*" The ground covered by this fascinating and beautifully illustrated book, which, besides giving the most recent advances, includes the historical foundations of the science, is most extensive, and thus shows the relation of physiology to other branches of natural learning. The whole of the text has been revised, and observations made since the last edition have been added.

The importance of a thorough grasp of general physiological principles as a basis on which medical men can best assimilate new developments in practical medicine must be borne in mind in deciding how much instruction the medical student should receive. On account of the multitudinous demands made by the medical curriculum, and the comparatively short time available, there is, not unnaturally, much serious discussion on the problem how the teaching of the pre-clinical sciences can be best arranged or even curtailed so as to be of the greatest value to the future practitioner; but, as Professor Bayliss points out, what at the moment is regarded as pure abstract or academic science may next week be obviously of the greatest importance in direct application to clinical work. On the other hand, general principles may be illustrated by, and brought into relation with, details that will subsequently become most familiar in daily practice.

In the new section on the capillary circulation full attention is paid to the researches of Dr. H. H. Dale and his colleagues on histamine, but a discussion as to the mechanism by which this substance causes a fall of blood pressure is left open; Professor Bayliss finds it difficult to believe that the peripheral resistance can be appreciably diminished by capillary dilatation alone, and still regards the chief peripheral resistance as provided by the arterioles. In the short account of wound shock and traumatic toxaemia the results of the Medical Research Council's committee on shock are epitomized, and stress is laid on the importance of maintaining the normal volume of the blood, for dilution of the blood up to very wide limits has comparatively little significance as long as the volume remains normal.

In the interesting description of the hormones it is specially mentioned that the word was proposed by Mr. W. B. Hardy, which, though not conveying the desired implication of a messenger, has been generally adopted, and that in 1891 Brown-Séquard and d'Arsonval published a brief note on the conception of chemical messengers. The distinction drawn by Sir E. Sharpey Schafer between exciting substances (hormones) and depressing bodies (chalones) is regarded as unnecessary, as is also the use of the name "autocoids" to include them both. The account of anaphylaxis has been brought up to date; after showing that the phenomena are not satisfactorily explained by the hypothesis of specific chemo-receptors, preference is given to the view that a colloidal precipitation at the surface of the sensitive cells destroys more or less the semi-permeability of the cells.

In conclusion, it may safely be said that every medical man will be the better for acquaintance with this guide to sound physiological knowledge.

[1] *Principles of General Physiology.* By William Maddock Bayliss, M.A., D.Sc., F.R.S. Third edition, revised. London: Longmans, Green and Co. 1920. (Roy. 8vo, pp. 826; 260 figures. 28s. net.)

THE PSYCHOLOGY OF PHANTASY.

DR. CONSTANCE E. LONG is one of the leading exponents in this country of the Jung school, and has been largely responsible for making the work of the Zurich psychologist accessible to the English reader. She has now collected a number of her personal contributions, and has published them in a book with the title of *The Psychology of Phantasy*.[2] The book will be read with interest as indicating the psychological outlook of the particular school of which she is an adherent. Eleven papers are included in this volume, and they cover a variety of topics of psychological interest. The first four are concerned with the mental development of children, with special reference to mental conflicts, the unconscious mind, fear, authority, and discipline. In her preface Dr. Long states that a candid friend, who happened to be an academic psychologist, told her that her book had nothing to do with psychology. This may or may not be so; but, whatever her book has to do with, its author has certainly a sympathetic understanding and insight into the mind of a child, and has much to say of value to those who are in a measure responsible for its satisfactory development.

In subsequent chapters Dr. Long discusses such matters as the censor and unconscious symbolism in dreams, sex as a basis of character, unconscious factors in sex education, and the significance of phantasy in the production of the psychoneuroses. She also devotes a chapter to the discussion of Jung's *Psychology of the Unconscious*—a book which Miss Long rightly describes as "formless," and one which many of its readers will be glad to have explained. A careful study of these papers will make the reader conversant with the difference in outlook between the opposing schools of Jung and Freud, because Dr. Long writes not only attractively but clearly. She herself thinks that many ideas are implicit in the *Traumdeutung*, which have been explicitly developed by the school to which she belongs, though the Freudians strenuously deny this. It may be so; but her book would seem to show that the differences between the two schools are fundamental and irreconcilable. It is one thing to explain the Oedipus complex psychologically in terms of regression to a childish longing for love and protection, and quite another to do so concretely and physically. It is difficult to harmonize the view of an unconscious "as the source of intuitive knowledge and origin of religions . . . the germinal place of emotional and mental forces . . . a chaos of infinite resources . . . the kingdom of heaven within us," with that of an unconscious "incompatible with the civilized conscious personality . . . sexual in character . . . of a crude and infantile type." Nor is it easy to find obvious points of contact between a psychology which seeks to interpret a dream in terms of some high task in life unfulfilled and one which does so in terms of some base and heavily disguised desire, furtively seeking expression under cover of darkness. Dr. Long suggests that the difference between these divergent views is, in a measure, a matter of emphasis. It is doubtful whether she really thinks this, and still more doubtful whether her readers will do so. It is not for the reviewer to determine which is right, but the difference between these two schools of thought is certainly fundamental.

[2] *Collected Papers on the Psychology of Phantasy.* By Dr. Constance E. Long. London: Baillière, Tindall, and Cox. 1920. (Demy 8vo, pp. vii + 216. 10s. 6d. net.)

RADIOGRAPHY.

UNDER the title of *Radiographic Technique*[3] Mr. THORNE BAKER publishes a manual which deals with a somewhat neglected branch of radiology—namely, the photographic side of the art. The author states in the opening sentence of his preface that the book has been written with the object of placing before the reader the various details of photographic technique of which a knowledge is so necessary in radiographic practice; and he goes on to point out that the photographic knowledge of many operators is lamentably deficient. The book, however, is not by any means limited to a mere description of photographic methods; amongst other things, for instance, there is a chapter on intensifying screens, in which their use, the physical properties underlying their use, the way in which they should be used, and the modifications in development due to their use, are all discussed. There is also a valuable chapter on the fluorescent screen, screen stands, and protection. The chapter dealing with the photographic print is full of hints as to the best manner of reproduction from the *x*-ray negative—a much neglected

[3] *Radiographic Technique.* By T. Thorne Baker, A.M.I.E.E. London: Constable and Co., Ltd. 1921. (Demy 8vo, pp. 208; 61 figures. 15s. net.)

branch of *x*-ray work and yet an extremely important one to experts. In issuing reports on cases to medical men it is so frequently forgotten that brilliant and well set out prints are often the criterion by which radiographic work is judged; if poor prints are sent, the doctor is apt to lay less stress on the value of the accompanying opinion. The book, which contains also a chapter upon the industrial applications of *x* rays and an appendix containing many formulae, is well got up, excellently illustrated, and full of sound and interesting material. It should appeal not only to experts, but to all workers in either a hospital or private *x*-ray department.

The first edition of the *Roentgen Diagnosis of Diseases of the Alimentary Canal*[4] appeared under the names of CARMAN and MILLER, the second is published under that of Carman only. Everything has been thoroughly brought up to date, many of the chapters have been entirely revised, and two have been added on the hour-glass stomach and on pneumoperitoneal diagnosis of abdominal lesions. These changes have increased the size of the volume by 98 pages and 122 illustrations. The vast amount of material at the disposal of the author in the Mayo Clinic is obvious throughout, and much of the value of this book is due to the fact that the *x*-ray part of the work is, so to speak, controlled by the system of the clinic, and the *x*-ray findings can be compared with all other findings, operative and other. The new chapter on pneumoperitoneal diagnosis consists entirely of references to, and quotations from, the various papers which led up to and finally established this method. In summing up its value the author states that if the patients for examination are carefully chosen pneumoperitoneum may be expected to prove a valuable aid to diagnosis, but should be resorted to only after all other methods of examination have failed. A warning is also given that the radiologist should be chary of reading something into the plates that he does not clearly see. The other new chapter, that on the hour-glass stomach, is full of valuable material. Four varieties are recognized and discussed: the congenital—very rare; the organic, the spasmodic or functional, and the false hour-glass. The methods of differential diagnosis and the uses of belladonna and atropine in doubtful cases are set forth. Other good features of the volume are the very excellent illustrations, the notes on typical cases, and the full references to literature following each chapter. In its new form this book probably remains the best hitherto published on the subject.

The volume entitled *Radiologie et Radiumthérapie*,[5] by BÉCLÈRE, COTTENOT and Mme. LABORDE, is the thirty-second of a series of books published under the general direction of Drs. Sergent, Ribadeau-Dumas, and Babonneix. After an introduction by Dr. Béclère, a physician who is one of the most eminent radiologists in Paris, Dr. Paul Cottenot deals in succession with *x* rays and the apparatus for producing them, with dangers to the operator and method of protection, and with the general technique of diagnosis by *x* rays. Their application for this purpose to the skeleton, the thorax, the lungs, the heart, the oesophagus, the stomach, the intestines, and the kidneys is discussed seriatim. The second part, on radium therapy, is by Dr. Laborde; it also follows the usual conventional lines with an introduction and chapters on general principles, apparatus, and general technique. Malignant tumours, pathological conditions of the skin, the uses of radium in gynaecology, all come under review, and the book concludes with chapters on diseases of the blood, gout, rheumatism, and so on. A considerable number of illustrations are included, but, as in many French books, they do not reach a very high standard of excellence; many of them, reproduced on the ordinary paper of the letterpress, and interspersed with the text, do not adequately demonstrate the conditions they are supposed to show, whilst some are singularly poor. Authors should remember that it is better not to introduce illustrations at all than to use those which do not show definitely the points under discussion. Apart from this fault the volume is well got up, and is a good textbook.

[4] *The Roentgen Diagnosis of Diseases of the Alimentary Canal.* By Russell D. Carman, M.D. Second edition, revised. Philadelphia and London: W. B. Saunders Company. 1920. (Roy. 8vo, pp. 676; 626 figures. 42s. net.)

[5] *Radiologie et Radiumthérapie.* By Drs. Béclère, Cottenot, and Mme. Laborde. Paris: A. Maloine et Fils. 1921. (Demy 8vo, pp. 527; 170 figures.)

DERMATOLOGY.

DR. HIGHMAN has produced a very sound and not over-elaborated textbook of dermatology.[6] It is designed especially for students, and consequently much greater space has, very properly, been allotted to the commoner diseases than to those which may best be designated dermatological curiosities. Although most of the rarer conditions of the skin have been included, the sections dealing with them are printed in smaller type than the main body of the book. The descriptions of the various diseases are good, and often written with an American raciness which is quite attractive and likely to assist the student in fixing the important points in his memory. Due attention is given to questions of diagnosis, and treatment is adequately dealt with; the mind is not confused with a mass of prescriptions without guidance as to their proper employment, but a few well-tried formulae are given with the proper indications for their use.

Dr. Highman adopts a curious classification which we do not remember to have seen previously, into autochthoncus and non-autochthonous diseases. Apparently autochthonous diseases are those strictly limited to the skin only, while the others have some connexion with the internal organs of the body. This classification is forced and does not seem likely to be followed by other dermatologists. It leads him to write four sections on (1) Pure dermatoses, (2) Parasitic diseases and infections, (3) Neoplasms and naevi, (4) Diseases of the organs of the skin and of the mucous membrane, and a fifth section devoted to syphilis alone. But, after all, it does not much matter from the point of view of the student what classification is adopted so long as he can find the information he wants without difficulty, and this with the help of the table of contents and the index he can do. The photographs with which the volume is embellished are for the most part excellent and well chosen to bring out the characteristics of the conditions illustrated. But Fig. 17, of pemphigus vulgaris, is poor. The explanatory notes pointing out the salient characteristics depicted are distinctly useful. Altogether the book is a very practical introduction to the subject.

[6] *Dermatology.* The Essentials of Cutaneous Medicine. By W. J. Highman, M.D. New York: The Macmillan Company. 1921. (Roy. 8vo. pp. 498; 93 figures. 32s. net.)

NOTES ON BOOKS.

THE report of the Library Committee of the College of Physicians of Philadelphia for 1920 is remarkable chiefly for the list of rare medical books which were added during the year. No less than 34 incunabula, many of them extremely rare and valuable, 121 early medical works of special interest, and 6 manuscripts, are included in the list. The total number of volumes in the library, including some 16,000 unbound reports and transactions, is now more than 125,500. This does not include unbound theses, dissertations, and pamphlets to the number of 120,400.

The *Purple Sapphire*[7] is the title of a clever little book of short stories. It professes to be a selection from a number of manuscripts deposited for safe keeping with CHRISTOPHER BLAYRE, Registrar of the University of Cosmopoli, during the early years of the twentieth century, and given to the public in 1952. In order to enjoy them to the full the reader should first study the editorial "antescript," the contents table or "list of selected papers," and the three quotations from scientific writers printed in front of the first chapter. Internal evidence proves the author to be someone with first-hand knowledge of the world of science and a gift for dramatic narrative. Since Poe's time various writers have tried their hand at the "bogey" short story in English—notably Kipling, Marion Crawford, Conan Doyle, and Montague James. The present collection of tales may contain nothing quite so good in its way as "The Mark of the Beast" or "Lot No. 249," but most of them are very well done. Our admiration is compelled by the ingenious manner in which the circumstances are handled

[7] *The Purple Sapphire and other Posthumous Papers.* Selected from the Unofficial Records of the University of Cosmopoli by Christopher Blayre. London: P. Allan and Co. 1921. (Cr. 8vo, pp. 210. 7s. 6d. net.)

so as to give an air of probability to the wildest flight of fancy. In order, we suppose, to heighten this effect, the ninth and last narrative, which, according to the table of contents, was "deposited by the Professor of Biology," is missing: "The publishers regret that they are unable to print this MS."

The latest addition to the "Notable Trial Series" is the *Trial of Thurtell and Hunt* for the murder, on October 24th, 1823, of William Weare in a gig near Gill's Hill Cottage, close to Elstree; it is edited, with an interesting explanatory introduction, by Mr. ERIC R. WATSON,[8] who previously brought out the volume on Eugene Aram in this series. This trial, though devoid of any thrilling mystery or psychological puzzle, forms an important landmark in legal history for several reasons: it was almost the last famous trial under the old Tudor procedure, rightly described by the presiding judge as inquisitorial; it was the first "trial by newspaper," and the first in which there was a serious collision between the bench and the press as to the duties of the latter in relation to the investigation of crime, for there was a virulent campaign, especially by the *Times*, against the prisoners; it has hardly a parallel as a murder undertaken solely for the sake of money by persons unconnected by family ties. Before the trial the supposed incidents of the murder, illustrated by the horse and the gig in which the deed was done, were given at the Surrey Theatre in a play called *The Gamblers*. The sketches of the three villains, Thomas Thurtell and his two associates, Hunt and Probert, are reproduced from drawings by Mulready never previously published. Of the two latter the editor remarks that the lineaments are those of human beings, but that there all resemblance to human nature ceases, and that in comparison Burke and Hare appear to be angelic beings. Probert turned King's evidence, but was executed a year later for stealing a horse; Hunt, a craven coward, was transported to Botany Bay. John Thurtell was made of sterner stuff and defended himself vigorously, but in vain, at the trial before Sir Alan Park, who is described by the editor as "deeply but narrowly religious, hot tempered, irritable and rather old-womanish, with much self-complacency and a full share of that judicial simplicity which affects not to know the slang of the day." At the execution "when his neck broke it went off like a pistol," to quote from George Borrow, and his body was publicly dissected by Abernethy at St. Bartholomew's Hospital, where thousands visited his ghastly lying-in-state. The evidence is given in full, and there are five appendices in this well-edited record, which is dedicated to Sir Harry Bodkin Poland.

[8] *Trial of Thurtell and Hunt.* Edited by Eric R. Watson, LL.B., Barrister-at-Law. Notable Trial Series. Edinburgh and London: William Hodge and Co., Ltd. 1921. (Demy 8vo, pp. 225; illustrated. 10s. 6d. net.)

THE WELSH NATIONAL SCHOOL OF MEDICINE.

THE medical school of the University of Wales attached to the University College of South Wales and Monmouthshire at Cardiff is about to be completed. The school has for the past thirty years provided for the requirements of the first three years of the medical curriculum, with results which compare well with those obtained in other universities.

The University Council, at its meeting at Aberystwyth recently, acceded to the application of the College Council for a grant of £13,000 per annum for the completion of the Welsh National School of Medicine. The Council of the college is therefore now in a position to carry out its scheme for the constitution of the National School of Medicine as an integral part of the University College in the Welsh metropolis.

Chairs in pathology and bacteriology, preventive medicine, and tuberculosis have already been established, but the departments for these branches of medical education are not yet completed. It is now intended to establish a complete medical school. Full-time professors in medicine, surgery, and gynaecology and obstetrics, with lecturers in the remaining departments, are shortly to be appointed. Advertisements for professors of medicine and surgery appear in our columns this week. Clinical instruction will be given at the chief general hospital—the King Edward VII Hospital, Cardiff—which may possibly in the future be associated for this purpose with other local institutions, such as the workhouse infirmary and the Seamen's Hospital.

The hospital serves a densely populated industrial area which, within a radius of twenty miles, includes over 1,000,000 people, two-thirds of the total population of Wales. There is an abundance of clinical material at the hospital, which from its out-patient department could always keep fully occupied an institution of 1,000 beds. Sir William Diamond, well known in local shipping and industrial circles, is chairman of the board of management, and under his guidance the institution is likely to become one of the best of its kind in Great Britain. The original scheme of 1912 included a considerable extension of the present accommodation of 300 beds, the additional beds to be in charge of the professors of the separate units, but this plan is for the present unattainable, for financial reasons which affect the Principality in common with other parts of the country.

A charter of incorporation has been drawn up embracing the university and the hospital, and a joint conference of representatives is about to meet to discuss further the matters of mutual interest and to determine the probable date of completion. The new scheme will involve a division of the existing beds between the present members of the honorary staff and the unit professors.

A small convalescent home attached to the hospital is situate at Lavernock on the coast, a few miles distant; there is considerable room for extension, and the hospital authorities, it is thought, might consider the desirability of establishing a large convalescent branch of the institution so as to release beds speedily at the central hospital. The present area occupied by the hospital does not offer any room for extension, although it has been suggested that the adjoining road and street may meet this difficulty. The idea of extension at the convalescent home is favoured as far less costly than extension of the hospital on a site close to the centre of the city.

There is a body of opinion, including members of the honorary staff of the hospital, which favours a postponement of the operation of the present scheme of completion, owing to the contemplated measures of reconstruction and rearrangement at the hospital, as advised by Dr. Donald J. Mackintosh, of Glasgow, and owing to the lack of adequate laboratory and other facilities for the reception of students. It is probable that these wants will be promptly remedied, and that an early start will be made in what should ultimately become one of the best complete schools of medicine in the country.

The project was considered in 1916 by the Royal Commission on Welsh University Education, presided over by Lord Haldane, and its recommendation of the unit system was accepted. The College authorities wish, without further delay, to take full advantage of the present vigorous impulse in medical education which the school enjoys in common with those attached to other universities.

The school of preliminary and intermediate studies has at present 250 students, and most of those about to finish the third year of study have expressed a desire to complete their education locally. For this reason the university is most anxious to complete the medical school by the commencement of the forthcoming session in October next.

THE sixth French Congress of Medical Jurisprudence will be held on May 23rd and 24th at Brussels, and on the 25th and 26th at Liége.

THE International Labour Office announces that it has received a request from the League of Nations to appoint a delegate to the Temporary Health Committee of the International Health Organization of the League. The need for such a committee arises from the fact that certain diplomatic measures have to be concluded before the permanent Health Organization, as decided by the League Assembly, can be set up, and it is essential meanwhile that there should be no delay in carrying out the duties imposed on the League in connexion with international health problems. The Temporary Health Committee, which will meet in Paris early this month, is to consist of twelve members: A delegate from each of the States permanently represented on the Council of the League of Nations—France, Great Britain, Italy, and Japan; a delegate from the League of Red Cross Societies; a delegate of the International Labour Office; the President of the "Bureau International d'Hygiène publique"; and five delegates appointed by the Committee of that body. The committee will cease to exist when the permanent organization is set up.

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THE TUBERCULOSIS REGULATIONS, 1921.

WE referred on April 9th to the termination of sanatorium benefit under the National Insurance Act, 1911, and to the obligation now resting upon county and county borough councils to provide institutional treatment for insured persons. Consequent upon this alteration, and also owing to the formation of the Ministry of Health, it has been found necessary to amend the Tuberculosis Regulations made by the Local Government Board on December 19th, 1912. The new amending Public Health (Tuberculosis) Regulations, which are dated April 21st, 1921, refer to important particulars in the register of tuberculosis notifications which is required to be kept by every medical officer of health under Article XI of the 1912 Regulations. This register is now to be open to the inspection of the medical officer of a tuberculosis dispensary which serves any area within the district to which the register refers, in addition to those persons who are already authorized to inspect it.

In January last the Minister of Health asked for a return from medical officers of health of all cases of tuberculosis resident in their districts on January 1st, 1921, as shown by the registers. Many medical officers of health took great pains to revise the register in order that the return should be accurate. There were others who had to admit that the return sent in could not be relied upon as a trustworthy index of the incidence of tuberculosis within their districts. The new Regulations require that the register shall be revised by the medical officer of health at least once every three months by removing the names of those persons who have died or who have removed permanently from the district. Particulars of those cases which have permanently removed must be sent to the medical officer of health of the district to which the person has removed. These new Regulations are excellent, and there will be no great difficulty in carrying them out in large towns and where the medical officer of health is the tuberculosis officer. For country districts, however—namely, small urban and rural districts—the Regulations do not go far enough. The medical officer of health, in addition to keeping a register of notifications received by him, is required either personally or by deputy to make inquiries with regard to cases notified and to take steps to remove conditions favourable to infection. That is to say, he must see to the removal of insanitary conditions. Those conditions having been removed, however, the medical officer of health can render little further service. Far otherwise is it with the tuberculosis officer, who should keep in constant touch with the patient, and who is the first—or should be the first—to know of any change of address.

The Minister of Health might therefore very well have made a regulation requiring a county medical officer of health, a tuberculosis officer, a school medical officer, a sanitary inspector, or a health visitor, to notify to the district medical officer of health the change of address of any tuberculous person which comes to their notice, and also requiring the medical officer of health on receiving such notification from any other official to forward a copy to the tuberculosis officer. This brings us to the need of co-operation between the medical officer of health and the tuberculosis officer, which was so strongly urged by the Local Government Board as long ago as 1912. It is to be feared that this co-operation in many counties is lacking, and the best results will not be attained until it is brought about. The manner in which it could be achieved was pointed out by the Local Government Board in a circular dated December 20th, 1912, to which attention has again been drawn by the Ministry of Health; it was suggested that the tuberculosis officer should, for the purpose of the Tuberculosis Regulations, act as an officer of the sanitary authority under the direction of the medical officer of health. We should like to see a return showing those counties in which this suggestion has been adopted and to be informed as to its success.

We believe that the majority of the tuberculosis officers throughout the country are carrying out their duties with advantage to the community; but in some counties the administration leaves much to be desired, and the reason for this is that there is far too much overlapping in the work of the various officials. This overlapping can be remedied if the officials of the Ministry of Health will only apply themselves to the task.

NAPOLEON.

AT 5.49 p.m. on Saturday, May 5th, 1821, the Great Napoleon died at Longwood, St. Helena, an exile and a prisoner: "The last single captive to millions in war." A hundred years have elapsed since that event took place, and this week the whole of Western Civilization is uniting to do homage to that great name. For many years now the memory of Napoleon has been occupying a continually increasing share of the thoughts of mankind, and in latter times the mists of prejudice have in large measure been cleared away, leaving the historic figure of Napoleon in truer perspective and enabling us to make a juster estimate of his mission in the world. This week the press is being deluged with appreciations, analyses, and critical reviews, and perhaps from them all will emerge some definite conception of the real Napoleon. What is the secret of the hold this man has upon the human imagination? Dare we attempt a solution of the problem?

The eighteenth century was occupied mainly in freeing itself from the last strangle-hold of the feudal system of civilization, and the weapon used was the spirit of free inquiry. Under repeated assaults this system, which had long outlived its usefulness, which for centuries had held the human race in bondage, which had established for its own security the idea of hereditary power, and which demanded a blind belief in certain principles necessary for its existence, began to sway and totter. Voltaire convinced mankind that it should suffer no penalty for thinking as it pleased, and Rousseau insisted that all men were born free and equal. The wide acceptance of these principles sounded the death-knell of feudalism, and in 1789 it fell with a resounding crash. The old order was swept away, the old slavish adherence to so-called "authority" was gone; and men were told that all were free and equal, were to serve no master and to worship no God. The pendulum had swung to the farthest point from servitude, and it was

about to move again in obedience to the immutable law. The time had arrived, and the man, in the person of Napoleon.

He came without a name, without a country, educated on the charity of France, devoid of rank and fortune, but possessing the most amazing efficiency of brain that the world has ever seen. Cold, collected, and unerring in thought, "steady as bronze, quick as lightning." Not cruel, but merciless to anything that stood in the way of the attainment of his wishes, the very embodiment of the new world, which cared not for right, which demanded only efficiency. And so France followed Napoleon, each man carrying in his knapsack a marshal's baton, and cheerfully giving him servitude in return for the career open to ability. Rank and birth did not count. What wonder Napoleon became master of the world and that among his followers there could be found, in the person of a common postillion of a country inn, the most fearless cavalry officer the world had ever seen, and one judged fit to be a king. Everything was possible.

Napoleon possessed in a superlative degree all the qualities coveted by the ordinary man of the world, and in that sense is truly a representative man. He was also thoroughly representative of the modern system, as opposed to the ancient on which Europe had existed for many centuries. He was the head of a galloping, breathless age intoxicated with a newly found freedom, where the meanest born might become powerful did he only possess brain efficiency. To science he was ever ready to give a helping hand, firmly convinced as he was that the progress of science meant the advancement of the State. Chemistry in particular he fostered, because he realized that it was the foundation of industries useful to the community. His mathematical mind could not accept a science so inexact as medicine, and he was prone to belittle the efforts of the physician, but he would have understood and applied the recent achievements of preventive medicine, and he has left on record a noble appreciation of the work of the great surgeon Larrey, designated by him the most honest man he had ever met.

Much has been said about Napoleon's attitude towards democracy, and attempts have been made to read into his life a tendency in that direction. But how could it be so? Napoleon was individualistic to the core, and although the community might benefit in the long run, the prime motive was always personal advancement. His success was phenomenal and failure seemed a remote possibility. He was a dazzling military genius, a mighty law-giver, a far-seeing and consummate statesman, endowed with greater powers of intellect and endurance than had ever been given to man; then came the crash of Waterloo and the agony of St. Helena. Did any man ever climb to such giddy heights and then fall so far? What is left of the Napoleonic system? Military despotism, always questionable, has received its death-blow after our experiences of the late war. Napoleon's European system has long since been rejected. Only the mighty "Code Napoleon" founded on the principles of equity remains. But the personality of Napoleon will hold its sway over the world for ever. As Emerson has said, "We are all little Napoleons," and whenever we think in terms of brain efficiency, unconsciously we have in mind Napoleon, the greatest example of "braininess," who came from nothing and who gained everything by sheer force of intellect. That is why, as Alison has said, "Napoleon will live when Paris is in ruins; his deeds will survive the Dome of the Invalides."

THE ANNUAL MEETING AT NEWCASTLE.

We publish in the SUPPLEMENT this week revised information about the arrangements made by the local Committee for the accommodation of members in hotels and hostels in Newcastle and its neighbourhood during the forthcoming Annual Meeting of the British Medical Association. We are asked to call the attention of our readers to the importance of making early arrangements, especially as regards hotels. If this is done, the Hotel and Lodgings Committee have every confidence that ample accommodation will be found for all their visitors. The Honorary Secretary of this Committee is Dr. E. F. Murray, 52, Jesmond Road, Newcastle-upon-Tyne.

THE INSTITUTE OF PHYSICS.

THE Institute of Physics was inaugurated at a largely attended meeting in the hall of the Institution of Civil Engineers on April 27th. The need has long been felt for a corporate body, analogous to the Institute of Chemistry, which should strengthen the position of workers engaged in physics, and form a bond between the various societies interested in the subject. The Institute has now been founded by the co-operation, in the first instance, of the Faraday Society, the Optical Society, and the Physical Society of London, while the Royal Microscopical Society and the Röntgen Society have since decided to participate. In opening the proceedings, the first President, Sir Richard Glazebrook, said that the work of the physicist would become more and more important in the future, both in pure and applied science, and one of the aims of the Institute was to accelerate a recognition of the physicist's position and value. Many developments in physics had been of vital importance during the war, but men who had done important work as physicists could only be given an official status in some cases by being termed research chemists. He added that the membership of the Institute was already about 300, and comprised most of the leaders in physical science. Sir J. J. Thomson, who, it was stated, was willing to be nominated as president for the next year, gave a brief address. He said that to one who regarded chemistry as a branch of physics it was rather anomalous that hitherto there should have been an Institute of Chemistry and not an Institute of Physics. He had been a student of physics for fifty years. At the beginning of that period physics was like an army with great generals but few troops. There were at that time perhaps a dozen laboratories in the country. Opportunities multiplied rapidly, however, and students with them, and salaries also increased so that physics now offered to every competent man a livelihood though but small hope of a fortune. To-day the demand for competent physicists exceeded the supply. Research was expensive for the student and for the university, and perhaps this fact was not sufficiently recognized, although more money was available for research now than ever before. He saw no disposition to neglect or undervalue pure research, undertaken without any thought of an industrial application, and he congratulated the Institute on representing a profession which not only contributed so largely in various ways to human comfort, but aided the intellectual development of mankind. The Right Hon. A. J. Balfour extended a cordial welcome to the Institute. He had been greatly surprised to learn that there was not already in existence an institute of physics. After all, physics was the most fundamental of all the sciences. Whatever a man's line of research might be, if he could find a physical explanation for the phenomena he was examining, then, and then only, could he hope for something like finality in his investigation. It was certainly surprising that in this country, which had not lagged behind any country in the world in the great advances it had made in regard to the physical knowledge of the universe, they had not had an institute of physics before now. He confessed that when he saw vast disputes proceeding with regard to the distribution of the

results of industry, he wished that half the money and half the energy so expended could be devoted to increasing the power of man over Nature, thereby enlarging the total to be distributed. His memory went back to his days at Cambridge and to giants like Kelvin, Stokes, and Clerk Maxwell, who turned knowledge to such practical account. The mere growth of laboratories and multiplication of students would not produce men of that calibre, for genius came by itself and could not be cultivated or produced to order by any system of education. That rather chilling observation, however, did not settle the question, for if great discoveries were to be made both money and organization were required, and it was a grief to him that the Treasury was reluctantly compelled to cut down its allocations. He was often surprised that the imagination of some of the great magnates was not stimulated by the idea that by aiding research they could add to the wealth of the world. When one reflected upon the changes such discoveries had made in the lot of mankind it was amazing that more was not done by men who did not lack the spirit of liberality or the means of exercising it. It must be due—Mr. Balfour suggested—in part to an imperfect apprehension of the facts, and in part to that fatal desire to see immediate results for outlay. Whatever added to knowledge of the universe could not fail sooner or later to contribute materially to the happiness of mankind.

TUBERCULOSIS IN THE CANADIAN FORCES.

A BOARD, consisting of five of the best known tuberculosis consultants in Canada, appointed by the Canadian Department of Soldiers' Civil Re-establishment, has investigated all the sanatoriums throughout Canada where ex-service soldiers are receiving treatment, and has presented its report.[1] In most instances these sanatoriums are also used for civilian patients, and ultimately will be used entirely for them. The number of men who entered the Canadian Expeditionary Force was 590,572, and 8,571 were treated by the department down to the end of April, 1920; this gives an incidence rate of 2.5 per 1,000 yearly for the 5¾ years considered. The average number of Canadians under arms throughout the period of the war, with deductions for dead and missing, has been estimated at 317,000. The annual incidence rate, therefore, is more fairly based upon this number, and is 4.7 per 1,000. Since 8.6 per cent. of the patients treated in sanatoriums were diagnosed as non-tuberculous, 0.4 per 1,000 should be deducted, leaving 4.3 per 1,000. This rate of 4.3 per 1,000 may be considered as the corrected incidence rate; but these cases are further divided into bacillary positive cases, 1.9 per 1,000, and clinically tuberculous cases, 2 4 per 1,000. The incidence rate of tuberculosis in the British Forces, with corrections for the annual average under arms, is 1.07 per 1,000 yearly. It is understood, however, that in Britain the presence of bacilli was necessary for a diagnosis of tuberculosis; so that, instead of comparing the rate of 2.5 per 1,000, similarly obtained from the Canadian Forces, with the British rate, a crude rate for bacillary positive cases only should be used, 1.1 per 1,000. The incidence rate is, therefore, approximately the same in the two armies; but in Canada 1.4 per 1,000 were treated in addition as being probably tuberculous. A comparison between the incidence of tuberculosis in the army and civil life can only be made approximately, as too short a time has elapsed for the death rate from tuberculosis in the army to become reliable for comparison with the civilian death rate. Broadly speaking, however, it is estimated that there has been twice as much tuberculosis among the ex-service men of the Canadian Expeditionary Forces as amongst civilians of the same age period (20–44). The sanatoriums in Canada, the report states, had a hard struggle to become efficient, since the compelling need of expansion for the many who demanded admittance had hitherto restrained improvement of facilities for treatment and the equipment needed, especially for the development of high standards of diagnosis. One of the real benefits of the war, therefore, is the great increase in sanatorium capacity because of the participation of the Canadian Federal Government; for while the civilian far too often is not treated for the disease, the ex-service man must be treated. Not only has accommodation been more than doubled, but all institutions which enjoy Federal assistance are much more highly efficient because of improved equipment as well as enlargement. The methods of treatment in vogue comprise all generally accepted as sound at the present time: A maximum out-of-door life through the facilities provided, adequate nursing, an ample dietary, food and diet supervision by trained dietarians, regulation rest and exercise, artificial pneumothorax, tuberculin, heliotherapy (both natural and artificial), dental treatment, and occupational treatment. From its investigations the board of consultants which issues this report is of opinion that a great constructive work has been done by the Government of Canada on behalf of her tuberculous ex-service men in a broad and sympathetic manner, and that a real and needed stimulus has been given to the whole antituberculosis work in Canada.

[1] Summary of Report: Board of Tuberculosis Consultants. Ottawa: Thomas Mulvey. 1920.

HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS.

SIR ERNEST CASSEL has founded and endowed a hospital or sanatorium for the treatment of functional nervous disorders. The upkeep of the institution and the treatment of patients has been largely provided for by the generosity of the founder, who has devoted £225,000 to the objects in view, but a charge will be made to each patient as a contribution to his or her maintenance. A fine mansion and park has been purchased at Penshurst, and the house has been reconstructed to accommodate sixty patients. It is primarily intended for members of the educated classes unable to meet the heavy expenses of care and treatment in a nursing home. We are informed that by the term "functional nervous disorders" will be understood those common but complex and distressing conditions which are not the direct outcome of organic disease. Among such may be named neurasthenia, nervous breakdown, loss of power not associated with evident structural changes, together with those manifold kindred troubles which are loosely termed "nervous." Largely, as is believed, the result of the stress and turmoil of modern life, they are unfortunately of great frequency and are accompanied by much suffering, and followed not uncommonly by disastrous mental and physical consequences. They are amenable to medical treatment under favourable conditions, but the facilities for such treatment hitherto existing have been altogether inadequate; it is to provide such means of cure and further to expand and elaborate them that the new institution has been founded. Their Majesties the King and Queen have graciously consented to become patron and patroness of the hospital. The members of the General Committee, under the chairmanship of Sir Ernest Cassel, are Sir Robert Hudson, Sir Courtauld Thomson, Sir Felix Cassel (the trustees of the fund) and Mrs. Joshua, together with the members of the Medical Committee, Miss Aldrich-Blake, M.S., Dr. Farquhar Buzzard, Sir Maurice Craig, Lord Dawson, Professor J. S. Haldane, Dr. Henry Head, Dr. A. F. Hurst and Sir Frederick Treves. Dr. T. A. Ross has been appointed medical director. The hospital will be ready for the admission of patients on May 23rd. Application should be made to the Medical Director, Cassel Hospital, Swaylands, Penshurst, Kent.

GARDENING FOR THE BLIND.

AT the first glance the difficulties in the blind adopting gardening as an occupation may seem insurmountable, but from the evidence which has been collected it is clear that

many of them can be overcome, and that the effort of overcoming them is in itself a valuable educational exercise for the blind. Most blind gardeners need someone at hand to help or guide, but there is one blind gardener at least who carries on his work alone, cultivating the ordinary vegetables of a market garden, fruit (such as apples and plums), and grapes and tomatoes, in a small span-roofed house, sending the produce to the market by carrier and dealing with the wholesale buyers. Another blind man is a small farmer who has brought up a family by his own exertions, while another is a successful florist. At Chartres, in France, the blind soldiers at the professional school which has been established there cultivate their own garden; it is now not only one of the most beautiful in the neighbourhood, but has carried off the prize for the best vegetable plot in the Chartres military area. From the financial point of view, save in a few exceptional cases such as those mentioned, it cannot be expected that a blind person can make a living by gardening, but the material benefit is not the only aspect that ought to be considered in the promotion of gardening among the blind and partially blind. The occupations from which blind persons can gain a livelihood are in the nature of the case mostly of a sedentary kind, and the physical, and even more the psychological, aspects of gardening as a recreation must be very great, while the material benefit is by no means negligible. A meeting will be held at the National Library for the Blind, 18, Tufton Street, Westminster, S.W., on Thursday, May 26th, at 5.30 p.m., to further the interests of the Guild of Blind Gardeners, the object of which is to encourage the blind to undertake gardening as a healthy and interesting occupation. Colonel R. H. Elliot, who is chairman of the Naval and Military Committee of the British Medical Association, will be in the chair at this meeting, and any communications should be addressed to the honorary secretary of the Guild, Mrs. Reginald Wombwell, 54, Hamilton Terrace, N.W.8.

THE MAYO CLINIC.

THE Mayo Clinic at Rochester, Minnesota, has often been described, and there are probably few medical men in Great Britain who are not familiar with it as a great surgical centre which has grown up under the direction of Drs. W. J. and C. H. Mayo. It is not so generally known that within recent times a medical side has been organized on a large scale. We are told that approximately 60 per cent. of the patients now going to Rochester are medical. Altogether there are eight hospitals, with a total of probably something over 2,500 beds. Recently 100 beds were set aside in one of the hospitals for the study of diabetes and nephritis under the direction of Drs. Rowntree, Fitz, and Norman Keith. The permanent medical and surgical staff of the Clinic numbers about one hundred, but the total is raised to some three hundred by those who are working under the three years' fellowship scheme, which was explained by Sir Humphry Rolleston and Mr. Waring in our columns last June. The Mayo Foundation for Medical Education and Research was established by the Mayo brothers on a permanent basis in February, 1915; shortly afterwards an agreement was made with the University of Minnesota under which the funds and income of the Mayo Foundation are devoted, under the direction of the Regents of the University, to the promotion of graduate work and research in medicine. The association with the University has since become more intimate, and the funds and income of the Mayo Foundation have been transferred to the Minnesota University, together with the staff, clinics, laboratories, library and records at Rochester. Entrance to the graduate school at Rochester is not limited to graduates of the Minnesota University, but an applicant must have a bachelor's degree in arts or science, an M.D. degree from an accepted institution, and a year's experience as resident in an approved hospital or in a laboratory. The endowment provides fellowships and scholarships. Fellowships in internal medicine have recently been advertised in our columns; they are for three or more years and are described as carrying "living stipends" and providing for both clinical study and research. The report we published last year stated that there were then about seventeen teaching fellowships, of the value of 600, 750, and 1,000 dollars for the first, second, and third years respectively, and eighty-six non-teaching Mayo fellowships, of which sixty were then in clinical and experimental surgery and twelve in clinical and experimental medicine. The full course leads up to the degrees of Master of Science (M.S.) or Doctor of Philosophy (Ph.D.) in medicine, surgery, ophthalmology, obstetrics, pathology, and so on. In the first year, spent mainly in the laboratory, the Fellow whose major subject is, for instance, surgery, works also at a minor subject, such as pathology; in his second year he finishes his minor subject, and passes an examination in it and in French and German, and devotes himself to his major subject; in his third year, if a surgeon, he works in the operating theatre, is in charge of the junior assistants, and writes a thesis. The organization for graduate study seems to be on a larger scale, thanks to the Mayo Foundation, at the University of Minnesota, than at any other American university, but it is far more elaborate at Philadelphia and Harvard than anything dreamed of in this country. The special degrees granted by the Universities of Pennsylvania and Harvard, as by the University of Minnesota, appear to be intended mainly for candidates who wish to prepare for a special line of practice immediately on the conclusion of the general course by which they obtain the degree of M.D. The University of Minnesota confines the adjective "post-graduate" to the revision or "refresher" courses taken some considerable time after graduation. Such courses are provided at many centres and are highly popular both with general practitioners anxious to keep their knowledge up to date and with others, "partially prepared clinical specialists," who wish to improve their knowledge of some particular line of practice.

HOSPITALS AND THE INCOME TAX.

LAST November the Executive Committee of King Edward's Hospital Fund for London appointed a sub-committee to consider the question of securing exemption from income tax for contributions to voluntary hospitals, thus providing a form of State assistance to them. This subcommittee, which consisted of Sir Walter Trower (chairman), Sir Basil Mayhew, Mr. H. L. Hopkinson and Mr. J. G. Griffiths, has now issued its report. Several alternative schemes were considered, and eventually one was adopted as a practical proposition. It is recognized that the greater part of hospital subscriptions and donations have been subjected to income tax, and, as part of the income of a hospital is exempt from taxation (under Schedule "C," interest on dividends, etc.) on the ground that it is applied to charitable purposes, the present position is obviously anomalous. It is suggested, therefore, that the Revenue should be empowered to give relief in respect of income tax borne by any subscription or donation to a hospital in such a manner that the institution and not the individual should benefit. For this purpose it would be necessary for a claim to be made by the hospital, supported by a certificate by the donor stating that income tax had been paid on the subscription, the amount being limited to a certain proportion of the donor's income, in order to ensure that the relief should be out of income as distinct from capital. The subcommittee considers that this scheme could be restricted so as not to embarrass the National Exchequer; that it offers a definite form of financial relief to the hospitals; and that it does not involve any question of

control of the management of the hospitals by the State. It recommends that its report should be placed before Lord Cave's committee, so that it may take this particular form of State assistance into consideration. Sir Walter Trower dissented from the subcommittee's report and presented a minority report, in which he expressed the opinion that the scheme was inconsistent with the report of the Royal Commission on the Income Tax, of which he was a member, and that it involved a direct grant by the Crown, which would raise the question of State control. He agreed, however, that if Lord Cave's committee considered that the principle should be recommended the proposed scheme was the best means of carrying it into effect. It is calculated, on the basis of approximate figures for 1920, that the sum obtainable by the London hospitals in the way recommended in this report as a refund from the Revenue might amount to £191,000. In this way their difficulties would at least be somewhat alleviated.

NORTH EUROPEAN CONFERENCE ON VENEREAL DISEASE.

THE first of the Red Cross regional conferences on venereal diseases to be held in Europe will meet at Copenhagen on Friday, May 20th, under the auspices of the League of Red Cross Societies. The Danish Red Cross Society will act as host and convener of the Conference. The national Red Cross Societies of Great Britain, Holland, Norway, Sweden, Germany, and Finland have been invited to send delegates, and it is expected also that the Governments of the countries concerned will be represented. The business before the Conference will include a general summary of the conditions in each country and an account of the medical measures and educational measures taken against venereal diseases. Special problems will also be discussed, including the supply and cost of arsenical compounds for the treatment of syphilis, the possibility of establishing an international standard for such compounds, and the provision in important ports, by international agreements, of treatment for cases of venereal diseases among sailors. The part the Red Cross should take in combating venereal diseases, and its relation to Government and voluntary agencies, will also be considered. The League of Red Cross Societies intends later to arrange regional conferences in other parts of Europe and subsequently in other parts of the world.

SERVICE CANDIDATES.

THE members of local authorities and their officers responsible for the correspondence with candidates for vacant appointments are no doubt anxious to treat them with all consideration, but we have reason to believe that they would do well to look into the manner in which their desires are carried out by subordinate officials. The handling of copies of testimonials may seem a small matter, but to a man who is earning nothing the cost of getting testimonials typewritten is of moment. The mortification of not obtaining an appointment is aggravated by failure to receive back copies of testimonials, which can be of no use to the authority, though they may serve the candidate's turn again. In one recent case in which the testimonials were returned the candidate, we are told, had sent an envelope stamped with a 2d. stamp; he received the testimonials back in an open envelope with a ½d. stamp, so that somebody seems to have made 1½d. out of him. There are other minor matters that might be mentioned, but the real question is whether the promise that men who had served in the war should receive special consideration after demobilization is being fulfilled. It is hardly enough to say that, other things being equal, a man who had served should have preference; if he has qualified himself for the post he deserves special consideration, even though he labour under some minor physical disability attributable to wounds or exposure suffered while on military service.

SIR JAMES MACKENZIE will give his lecture in the course at the Institute of Pathology and Research, St. Mary's Hospital, London, on Thursday next, May 12th, at 4.30 p.m. The thesis he will sustain is that "The opportunities of the general practitioner are essential for the investigation of disease and for the progress of medicine." On the following Thursday, May 19th, Professor H. H. Dale, F.R.S., Director of the Department of Biochemistry and Pharmacology of the Medical Research Council, will give a lecture on "Anaphylaxis and Immunity."

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

The Tuberculosis Bill.

THE second reading of this bill was taken in the House of Lords on May 3rd, being moved by the Earl of Onslow, the new Parliamentary Secretary to the Ministry of Health. Lord Strachie, for the County Councils Association, approved the measure, but asked for a clause to give statutory effect to the Government promise that the county councils should have a grant equivalent to that paid to the Insurance Committees last year, and 50 per cent. of the additional expenditure. Lord Onslow said that the Government was providing £2,000,000 to reimburse these councils, and this year another million sterling. This gift of a million was final, but the £2,000,000 would more or less depend on what the county councils spent on approved schemes during each year. There was no division on the second reading.

The Dentists Bill.

Sir Watson Cheyne, who has returned to the House of Commons after an absence due to illness, presided over a meeting of the Medical Group on May 2nd, when a deputation attended from the British Dental Association to confer as to the Dentists Bill. The terms of that measure, introduced by Dr. Addison while he was Minister of Health, have already been stated. The discussion showed that, while there is desire for legislation, there is still some difference of opinion as to what should be done.

Local Rates (Increase Prevention) Bill.—A private member's measure, entitled "Local Rates (Increase Prevention) Bill," introduced by Lieut.-Colonel Royds, was considered for second reading on April 29th. The first clause would require every local authority to set up a statutory financial committee of not more than one-fourth of the total membership of the local authority, and would lay down that no liability beyond £50 should be incurred without the sanction of this committee. Clause 2 would transfer from the Minister of Health to the Treasury all the powers at present held by the first-named department in relation to property and loans of local authorities. Clause 3 sets forth that there shall be an investigation by the Finance Committee of the County Council of the total county local expenditure every year. Clause 4 defines local authorities to which the Act should apply as meaning any county council or county borough council of any municipal borough, the council of any metropolitan borough, any district council and any board of guardians. Mr. Pretyman seconded the motion with some important qualifications, and Mr. Myers, for the Labour Party, moved its rejection. Mr. Neville Chamberlain, seconding the amendment, said that the limitation of £50 was absurd, seeing that the great county boroughs and many municipal boroughs conducted gas, water and other undertakings. Indeed, the only effect could be that the Finance Committee of the corporation would have to vote a lump sum to each of the spending committees. Sir A. Mond, the Minister of Health, said the Government could not accept Clause 2, and if it were persisted in they would oppose the measure. He pointed out that the Ministry's work in sanctioning local loans was not merely that of a financier, but that inquiries were held by officials with technical knowledge. It was evident that if this function were to be transferred to the Treasury it would have to take over a very large portion of the staff and the duties of the Ministry of Health on the technical side. It was a function which the Treasury was not anxious or ready to undertake. He could not imagine that local authorities, having with some trouble convinced the Ministry of Health of the justice of their demands, would welcome being asked to repeat the whole process a little further down the street. Holding that the proposal was undesirable, Sir A. Mond referred to the list of sanctions of the Ministry of Health in England and Wales during the year ended March 31st, 1921, for purposes other than housing. He took the medical services, about which so much had been said by a certain section of the House—tuberculosis, sanatoriums and dispensary purposes, £432,000; maternity and child welfare purposes, £118,000; venereal disease hospitals,

£65,000; total, £615,000. The Ministry of Health had to sanction loans for schemes originating within the purview of the members of the local authorities, which were certainly not stimulated by the Ministry of Health, to the extent of £21,336,000, and the total amount of any schemes for which it might itself be responsible was £600,000. Had anybody ever seen a more inverted pyramid on which to base an argument, or a better case of putting the cart before the horse? Captain Fitzroy, on behalf of the supporters of the bill, stated that Clause 2 would be abandoned altogether if the Government would withdraw opposition to the second reading, and on this assurance Sir A. Mond withdrew his opposition, and on a division the second reading was carried by 96 votes to 60, and was committed to a Standing Committee.

Ministry of Health: Medical Branch.—Sir Keith Fraser asked, on April 29th, what necessity there was for the increase in the number of medical men on the public health staff in the direct service of the Government, from 39 who performed the functions under the Local Government Board in 1914, to 100 at present employed by the Ministry of Health, at an annual cost which was increased from £26,871 15s. 9d. in 1914 to £130,630 2s. in 1920; and whether the Minister of Health proposed to take any steps to reduce the numbers and cost. Sir A. Mond replied that he was inquiring into the functions and numbers of the medical branch of the Ministry, and, pending the result of these inquiries, had given instructions that no vacancies arising in the medical branch were to be filled.

Medical Staff of the Ministry of Health.—Sir J. D. Rees, having, on May 2nd, been referred to a previous reply by Sir A. Mond as to the suggested reduction of the staff of doctors maintained by the Ministry of Health, now asked whether thirty doctors were not appointed just before the House rose, and whether this expense was not affecting the health of the taxpayer. Sir A. Mond replied that his health was not affected, though the amount of money in his pockets might be. Sir J. D. Rees: Is it not the case that if a man's pocket is affected too much it very prejudicially affects his health? Sir A. Mond said his medical advisers did not agree with the hon. member; the latter retorted that that was because they got their jobs.

Pensions Medical Boards.—Taking up an inquiry by Mr. Waterson, on April 28th, whether there had been any joining together of Medical Appeal Boards, Mr. Macpherson said there had not. He thought that what Mr. Waterson had in mind was an administrative arrangement whereby, in certain large areas, a number of boards might be grouped for supervision under one Deputy Commissioner for Medical Services, each board, however, retaining its own chairman.

Revaccination for Small-pox.—Mr. F. Green asked, on April 28th, whether, in view of the statement in the annual report of the Chief Medical Officer of the Ministry of Health for the year 1919-20 that cases of small-pox did not occur after recent revaccination, the Minister would state how recent vaccination should be in order to be absolutely protected, and what were the characteristics represented by the word "successful." Sir A. Mond said he was advised that the protection against small-pox infection by efficient vaccination was practically absolute during the early years following the operation, and that in the great majority of cases the protection remained effective up to the tenth or eleventh year after vaccination. The evidence of successful vaccination was the production at the seat of inoculation of the characteristic lesions followed by well-defined marks.

Economical Foods Pamphlet.—Sir A. Holbrook asked, on April 28th, when it was proposed to issue the educational food leaflet, the draft of which was submitted early in March, with a memorial on this subject from medical, scientific, health and other associations, and would he deal with the matter as one of urgent importance, having regard to the present general distress and the consequent necessity for disseminating knowledge of healthy, nourishing and economical foods. Sir A. Mond replied that the matter was receiving attention, and he would see whether any useful purpose could be served by issuing such pamphlet.

Indian Medical Services' Appeals.—Mr. Montagu, in answer to Major Glyn, on May 2nd, said that officers of the Indian Medical Service had no right of appeal under Section 42 of the Army Act, but had a right of appeal to the Governor-General under Section 180 (2) (*d*) of that Act. If dissatisfied with his orders, they might then appeal to the Secretary of State for India, and through him to His Majesty the King.

Venereal Disease amongst Seamen.—Mr. Simon asked, on April 26th, whether the Minister of Health was aware that British seamen still suffered under disabilities unshared by their fellow-countrymen or foreign seamen in being penalized if they sought treatment for venereal disease, and that the British representatives at the meeting of the Health Section of the League of Nations were advocating international facilities for the free treatment of seafarers; and if the Government would consider the desirability of amending the Merchant Shipping Act, 1906, Section 34, Subsection (1), as desired by all interests concerned. Sir A. Mond said that the same facilities as were provided in British ports for the treatment of seamen suffering from venereal disease were not available in many foreign ports. This matter was under consideration by the Committee of the Office International d'Hygiène Publique, and would in all probability be dealt with by the International Health Organization now being established under the League of Nations. The Minister promised to consult the President of the Board of Trade as to the last part of the question.

The Spahlinger Treatment for Consumption.—Mr. Higham asked, on May 2nd, whether the Prime Minister would consider the advisability of appointing a Commission to investigate at once the merits of the Spahlinger treatment for consumption, particularly in view of the fact that eighteen persons were treated in England with this treatment in 1913-14, when they were in the third degree of consumption, and to-day these persons were well and able to continue their occupations. Sir A. Mond, replying, said that the question of the merits of the Spahlinger treatment had been under consideration by responsible medical authorities in this country since 1913, and during the last few months the Ministry of Health, following their usual practice of investigating the efficacy of all new methods of treatment for tuberculosis, had given further special attention to the matter at the particular request of M. Spahlinger. The serum itself and reliable details of the clinical evidence in support of its use were not forthcoming. An undertaking had, however, been given that when supplies of this serum became available for independent and scientific investigation in this country, the Ministry of Health would facilitate an exhaustive examination of its efficacy. The appointment of a Commission would not appear to be of any advantage at the present time. He thought it desirable to emphasize that in the opinion of his medical advisers there was not yet available a sufficient body of evidence to justify the claims made for this treatment.

MEMORIAL TO SIR VICTOR HORSLEY.

THE following further subscriptions have been promised or received on behalf of the memorial to the late Sir Victor Horsley, C.B., F.R.S., particulars of which were published in our issue of January 1st, p. 19, and February 19th, 1921, p. 281:

THIRD LIST OF SUBSCRIPTIONS.

Acknowledged in previous lists, £506.

£25.—L. N. S. Scott.

£21.—Dr. J. S. Risien Russell.

£5 5s.—Dr. Janet Lane-Claypon, Dr. Foster Kennedy (New York), Dr. Herbert Spencer, Dr. Charles Hamilton, G. G. Turner, Percy Flemming, Dr. N. S. Finzi, Sir William T. Lister, Bilton Pollard, L. Gordon Hopkins, J. H. Parsons, F.R.S., Dr. Dennis Embleton, Society for the Prevention of Hydrophobia, per F. W. Fletcher.

£5.—H. J. Spratt, John Dilloy.

£3 3s.—Anonymous (per Dr. Batty Shaw), Dr. Hyde Marriott, Miss P. Whitaker, Dr. T. R. Elliott, F.R.S., Dr. A. M. H. Gray, Dr. T. H. Ionides, Dr. G. E. Waugh, Dr. Amand J. Routh, Sir John Williams, Bt., G.C.V.O., Dr. R. H. Marten (Adelaide).

£3.—Professor Winkler (Utrecht).

£2 2s.—Dr. E. D. D. Davis, Dr. Byrom Bramwell, Dr. E. Deanesly, W. Gifford Nash, Professor Sir E. Sharpey Schafer, Dr. H. C. G. Semon, Dr. A. G. Phear, Sir John Tweedy, J. W. E. Brock, Charles Brook, A. J. Blaxland, S. B. Gadgil, Dr. F. Penrose.

£2.—Professor W. W. Keen (Philadelphia), Dr. Lendon (Adelaide).

£1 1s.—Sir James Barr, Dr. J. J. Powell, Charles Smith, Dr. E. B. Ffennell, Miss Kirkaldy, Dr. Seymour Taylor, G. Hall, Dr. W. S. Sheldon, Dr. Howell Rees, D. Farnell, E. H. Young, E. A. Bullmore, Surgeon Commander C. B. Fairbank, W. H. Paine, Dr. J. S. H. Roberts, Dr. S. Williams, O. P. Turner, Dr. C. D. Holdsworth, Dr. P. J. Le Riche, Dr. G. H. Hunter.

£1.—Miss M. Breay, Miss M. K. Longfield, Dutch Branch of International League against Epilepsy, per Dr. Muskens.

Miss M. Lord, 5s. Mrs. Pitt, 2s.

Further subscriptions may be paid to either of the Treasurers, Sir Frederick Mott, K.B.E., Maudsley Hospital, Denmark Hill, Dr. H. H. Tooth, C.B., C.M.G., 34, Harley Street, or to either of the Secretaries, Sir William Arbuthnot Lane, Bt., 21, Cavendish Square, and Mr. Edward J. Domville, O.B.E., Symondsbury, Bridport.

DR. A. S. GUBB, formerly of London and now of Algiers, has written a small volume, with plans and illustrations, for the guidance of motorists in Algiers. The price is 5 francs; it is published by Jules Carbonel, Algiers.

THE late Alderman James Fildes, for many years chairman of the Manchester Public Health Committee, who died on February 3rd, has, among other gifts, bequeathed £1,000 each to the Manchester Hospital for Diseases of the Skin and the Manchester Royal Infirmary, and £500 each to the Hospital for Consumption and Diseases of the Throat, Deansgate, the Manchester Royal Eye Hospital, and the Manchester Surgical Aid Society.

THE second international post-graduate course in Vienna will be concerned with surgery, orthopaedics, gynaecology, and diseases of children; it will begin on June 6th and last a fortnight. Another course in dermatology, ophthalmology, oto-rhino-laryngology, and urology will be given in December. Particulars can be obtained on application to the *Wiener medizinische Wochenzchrift*, Wien, IX, Porzellangasse 22.

Scotland.

UNIVERSITY OF GLASGOW.

AT a meeting of the Glasgow University Court on April 28th the secretary announced a bequest by the late Mrs. Torrance of Helensburgh of £1,000, free of duty, for the endowment of a scholarship in connexion with pathological research in the University, the scholarship to be known as the "Frederick William Perman Memorial." It was intimated that the Senate had approved a recommendation by the Faculty of Medicine that a special final examination in medicine for ex-service students only should be held in July. The Principal stated that the number of ex-service students was not yet exhausted, and that it would be a great convenience that they should be qualified before October.

STUDENTS' FEES AT EDINBURGH.

It was recently decided by the authorities of Edinburgh University that it was necessary to raise the students' fees in the different faculties, the increase varying from 33⅓ per cent. to 50 per cent. This has already come into operation in the faculty of medicine, the summer session of which commenced on April 27th. A student, however, who served in any branch of His Majesty's Forces is only required to pay the fees at the old rate. In the class of anatomy, for instance, the former fee was four guineas, which still holds good for ex-service men, but for all other students the fee has been increased to six guineas.

BOGUS DOCTOR IN GLASGOW.

At Glasgow Sheriff Court on April 25th Maurice Nathan, a young man said to be of respectable parentage, a clerk, pleaded guilty to a charge of fraud. In May and June, 1920, he had, under an assumed name, pretended that he was a surgeon in the Glasgow Western Infirmary and the Samaritan Hospital, and had treated a woman and her daughter. He supplied bottles of medicine which were coloured water, and he pretended, among other things, to carry out the operation of transfusing blood. His bills for treatment amounted to £14. In passing sentence of six months' imprisonment Sheriff Lee said that Nathan had pleaded guilty to a fraud of a most dangerous character.

New South Wales.

[FROM OUR CORRESPONDENT.]

HOSPITAL MAINTENANCE.

THE question of hospital maintenance has again been brought prominently forward in connexion with the annual meetings of several of the public hospitals, and demands made for money for further extension and increased maintenance. The Minister of Health has asserted that the vote for the hospitals is exhausted and no money is available for any further extension of hospital buildings at present. He stated recently that objections were being raised to the nationalization of hospitals, and that the only way to prevent that was for the employers of labour to increase their voluntary contributions to an amount adequate to ensure the efficient maintenance and staffing of the hospitals of the State.

"The public hospitals," he argued, "are really for the benefit of the employers, for they exist to keep capitalistic machinery in order, and workers are part of the industrial machine just as is the plant which runs the mine or factory. The hospitals are really for the benefit of the capitalists and employers and they should maintain them. If they want the honour and glory of maintaining them by voluntary subscriptions well and good, but if they do not then the hospitals will be nationalized and the employers will not be asked for contributions but will have to pay for them by a levy in proportion to the number of labourers employed."

This statement was made in answer to a deputation which asked for an increased subsidy for a local hospital, and also for a capital grant for immediate alterations to the present buildings. The Minister stated further that the building fund of the Health Department was overdrawn to the extent of £50,000. The request of the deputation was not one for the workers, but for the mine owners, the brickworks owners, the railway commissioners, and other employers whose workers benefited by the hospital. These same views have been set forth on other occasions by the present Government, so that they may be taken as the expression of the policy of the Labour Government with regard to hospital maintenance.

SYDNEY HOSPITAL.

After the recent annual meeting of subscribers to the Sydney Hospital, the new Maitland Lecture Hall was opened by His Excellency the Governor, who at the same time unveiled a memorial tablet placed there in honour of Sir Herbert Maitland, to whose efforts its erection was largely due. The hall has been built to accommodate 125 students, and there are at present 160 on the roll. The President stated that Sir Herbert Maitland had begun his association with Sydney Hospital in 1892, and in 1908, when it was made a teaching hospital, he was appointed the first lecturer in clinical surgery and had occupied that position ever since. It was recognized that from the work he had done and the eminent services he had rendered, this lecture hall should be named after him. Sir Herbert Maitland, in reply, stated that besides the function of relieving the sick and suffering the hospital was utilized for teaching the youth of Australia the elements of the medical profession. But another important function of the hospital was to inculcate in the students those qualities of sympathy and consideration for the sick without which a student was a misfit and had better be a hewer of wood and a drawer of water.

CHAIR OF PSYCHIATRY AT THE UNIVERSITY.

Hitherto the teaching of psychiatry at the University of Sydney has been in the hands of a lecturer, and although attendance at the lectures has been compulsory the subject has been an optional one at the final examination. As a result of a conference between the representatives of the Government Department of Lunacy and the University Senate it has been decided to appoint a Professor of Psychiatry at a salary of £1,100 per annum. The duties of the new professor have not yet been definitely settled, but it has been suggested that he should have the medical charge of Broughton Hall, which is attached to the Callan Park Mental Hospital, and is to be used as a hospital for the treatment of voluntary or uncertified patients. It is also suggested that he should have charge of an out-patient department at the Royal Prince Alfred and Sydney Hospitals, as well as access to all the mental hospitals.

Correspondence.

PREVENTION OF VENEREAL DISEASE.

SIR,—I have studiously abstained from controversy, and have for several months past, as letters in my possession prove, been engaged in frank and friendly discussion both with Lord Willoughby de Broke and other members of his society in an endeavour to end the schism that is doing much harm to the warfare against venereal diseases.

I feel bound now to point out to the public that two things only hinder the progress of negotiations: First, the sending of letters to the press by the same post as that by which they have been sent to me—a discourtesy which has twice taken place and makes frankness impossible; and, secondly, and more seriously, the undeviating way in which the *Times* has given publicity to Lord Willoughby de Broke's society and suppressed—or most misleadingly summarized—the attitude of the National Council.

An instance of its partiality occurred on the publication of the report of the Bishop of Birmingham's Committee. This was at once described by the *Times* as the case of the Society for the Prevention of Venereal Disease, a parenthetical comment which the most prominent member of that society admitted to me to be incorrect.

An even worse instance has just occurred: The *Times* has quoted at length from a letter sent to me by Lord Willoughby de Broke, and has not quoted—and has never done other than very briefly and misleadingly summarized—the definition of the National Council's policy to which Lord Willoughby de Broke's letter was in reply. It has refused to publish the letter I at once wrote, even though

I was drawing attention to action for which Lord Willoughby de Broke has subsequently expressed full and frank regret.

It is time the public understood the reason. No one can be impartial on a matter he has already prejudged, and the "Medical Correspondent" of the *Times*, who comes before the public anonymously as an impartial commentator, is a member of Lord Willoughby de Broke's Executive Committee.

In these circumstances I ask permission to state in your columns what I am refused permission to state in the *Times*—namely, that between the policy of the National Council as defined at our general meeting on March 22nd, 1921, and that of Lord Willoughby de Broke's society there is now admitted to be but one real point of difference; that lies in the inability of the latter to accept the following sentences of our definition of policy:

"Detailed official instructions as to the use of disinfectants in this connexion will, if issued to the public on sale with the disinfectants, not only have an appearance of official condonation, but also lead to the assumption that such disinfectants are an official guarantee to the purchaser against contracting disease; moreover, such instructions, unless followed with scrupulous exactness after definite and personal tuition in their practice, may lead to an aggravation rather than a diminution of the incidence of these diseases."

Nevertheless, these sentences express not merely the truth, but the truth which is daily receiving greater recognition, and I have no doubt whatever that even in spite of suppression and misrepresentation, truth will continue to prevail.

I am even hopeful that Lord Willoughby de Broke, who has been frank and courteous throughout all our conversations when allowed to speak through his own voice, will find the courage to shake himself free of the influences which are alone keeping the schism open, and so enable it to be harmoniously closed, to the great advantage of the campaign which we both have sincerely at heart.—I am, etc.,

GORELL,
President.

National Council for Combating Venereal Diseases,
80, Avenue Chambers, Southampton Row,
W.C.1, May 2nd.

THE ETIOLOGY OF RICKETS.

SIR,—The abstract of an experimental investigation of this subject—carried out by Professor Noël Paton and Mr. Watson, and reported in the JOURNAL of April 23rd—traverses the current conception that rickets is a deficiency disease. It is a subject upon which an enormous amount of clinical experience must exist, and this, if it were focussed, might well resolve the problem, or at least indicate the lines upon which it might be resolved by experiment. So I am tempted to send you a clinician's view, in the hope of drawing others.

Some years ago, and for a good many years together, I saw a great deal of rickets at the East London Hospital for Children and as an assistant in the children's department at St. Bartholomew's Hospital. I came away with the conviction, unshaken since, that the cause of rickets is bound up with the eating of starch; that no diet, however faulty, will cause rickets unless it contains what is, for the individual, an excess of starch; and that, given such an excess of starch, rickets may occur in susceptible children although in all other respects the diet be perfect.

What constitutes an excess of starch is determined by individual peculiarity; for of two children in the same family and fed approximately on the same diet, one may be rickety and the other not. And this statement will probably be true of puppies also. Further, I have a firm belief that, apart from true and recognizable rickets, there is a common form of debility due to abundant starch-feeding, which affects children up to the age of 6 or 7. It is marked by a fat flabbiness and pallor, and a tendency to pot-belly, and responds splendidly to a diet from which carbohydrates are more or less excluded.

The teaching of my experience agrees pretty well with the results of the experiments under notice, but I do not know how to reconcile it with the claim that scrupulous cleanliness can obviate rickets when the diet is otherwise capable of causing it. If this be true it would seem that my clinical impressions must be at fault; but if they are supported by others, perhaps Professor Paton and his collaborator might be tempted to design some experiments to test the rachitic influence of abundant starch-feeding, superimposed upon a diet previously proved to be non-rachitic.—I am, etc.,

London, W., April 28th. W. P. S. BRANSON.

THE CARE OF ARTIFICIAL EYES.

SIR,—The question recently asked by "Medicus" as to the means of removing the discoloration and dulling of artificial eyes, raises the more important question, How best to prevent such deterioration? The subject is of importance at the present time, as so many pensioners have to be supplied with them, and these have to be replaced when, from any cause, they become defective.

Breakages most often occur in the act of introducing or removing the eye from the socket. The obvious remedy is to perform this act with the head bent over a soft surface, such as the bedclothes.

The point, however, I wish to emphasize is that the discoloration and dullness of the eye which so frequently occurs can be prevented almost as easily. My father, who, although not a doctor, is a man of some little ingenuity, has had occasion to wear an artificial eye for over thirty-five years, and during that long period has only had to renew the eye six or seven times, and only on account of breakage. No discoloration or dullness has ever occurred. This, as well as the ease, comfort and freedom from irritation which he has experienced, he attributes, and I believe with reason, to a very simple practice which he adopted almost from the first. It consists in placing a little absorbent wool into the concavity of the eye and then smearing a very small quantity of a weak white boracic ointment on that part of the surface of the wool nearest the large end of the eye, so that when the latter is in position the ointment is nearest to the source of the lacrymal secretion. When the eye is removed at bedtime the wool is found quite saturated with fluid. The eye is placed in a small receptacle containing cold water, and kept there until required in the morning when the wool and ointment are renewed.

The advantages are: an absence of lacrymation, thus avoiding the constant wiping of the eye and its well-known evil effects upon the lids; the eye itself retains its natural lustre and life-like appearance, and is endowed with more mobility, the small amount of ointment used dissolving and spreading over it in a delicate film, which acts as a protection against the deleterious action of the secretions and as a lubricator facilitating the movements of the eye in association with those of the lids; the eye does not become discoloured or roughened, and hence there is not the same tendency to mechanical irritation of the conjunctiva.

As an ophthalmic surgeon I can recommend the above simple but effective practice.—I am, etc.,

ISAAC A. DAVIDSON, B.A., M.D.,
Assistant Surgeon, Ulster Eye, Ear and Throat Hospital

Belfast, April 25th.

CELL ACTIVITY AND SPECIFIC DRUG ACTION.

SIR,—Many things suggest that in our treatment of disorder sufficient scope is not given to the activities not only of the leucocytes but of the fixed cells of the tissues. We would do well not to intrude too much on Nature's processes, but to observe and learn from her.

Certain foreign agencies are specially inimical to certain sets of cells. A poison administered in bulk to a healthy person will excite certain cells to make use of all their potentialities to meet it. An attenuated dose of the same poison will act in the same way, and will throw these same cells immediately on the defensive, their susceptibility being so delicate. In specific drug action we have a fine tool to use to excite rapidly specific cell activity, each poison finding its way straight to the cell in question.

With this clue, and making a careful study of the various effects induced by various agencies, we choose a drug appropriate to the sum of the symptoms with which we have to deal—that is, a drug which, when given in bulk, would affect the cells which we observe to be affected in a certain disorder. We give an extremely attenuated dose, so as to be certain of doing no harm.

Superficially this practice resembles homoeopathy; but the rationale of the matter is entirely different. The

cure, when cure results, is due not to the dose of poison—which even when most diminutive has not lost its specifically poisonous character—but to the vital response of cell-activity acting in self-defence. It is not the introduction of a "similar poison" which *cures*, but the reaction excited in the living cell against the superadded attack of a minute dose of a poison which has been proved to be capable of producing symptoms similar to those from which the organism has been suffering.

These minute doses are exceptionally effective when a chronic stage has been reached—that is to say, when the organism has become habituated to the presence of a deleterious agency. If we then introduce a diminutive dose of a poison which would in bulk single out the very sets of cells affected, the result will be to administer just the *appropriate slight stimulus to excite to renewed activity cells which have become inert* through a long period of unavailing resistance. The relationship existing between cell activity and specific drug action is at any rate one deserving of attentive consideration.—I am, etc.,

S. E. WHITE, M.B., B.Sc.

THE VALUE OF THE WASSERMANN REACTION.

SIR,—In your issues of May 29th and August 7th, 1920, two letters from myself appeared giving my reasons for warning practitioners against placing too great reliance on the Wassermann reaction. In the later of these I appealed to your readers to communicate to me such instances of unreliability that came within their experience, in order that sufficient evidence might be collected to prove conclusively that the "Wassermann reaction test, as employed at present, is not sufficient evidence alone on which to base a diagnosis of syphilis or to exclude this disease."

I received several replies giving instances of reports contradictory either in themselves or to the clinical evidence; but in the meanwhile my opinion, as expressed in your columns, in a medical contemporary, and in my manual, had received such confirmation by experienced authorities on venereal disease that it appeared evident that the unreliability of this test when unsupported by clinical evidence was now generally acknowledged and accepted, and that it was therefore unnecessary to trespass further on your space.

Marshall and Ffrench state: "There is a dangerous tendency at the present day to exalt the value of laboratory diagnosis and neglect that of clinical experience. A diagnosis based upon laboratory tests alone may lead to disastrous consequences both to the patient and the practitioner"; while McDonagh states, "I no longer attach the importance to the reaction which I once did," and "in my opinion it is useless to gauge the amount of treatment required, by the complement fixation test."

The Pan-American Congress on Venereal Disease that took place last year also put it on record that a negative reaction could not exclude syphilis, and that a positive reaction could not be accepted as conclusive evidence of syphilis. Wassermann himself more than ten years ago wrote: "If the reaction be negative, syphilis cannot be excluded absolutely but only with a probability of about 90 per cent.," and in 1912 I wrote: "Of all cases of syphilis examined from 80 to 90 per cent. give a positive reaction . . . different results are obtained with syphilitic lesions of different tissues."

In your issue of April 30th Dr. Kenneth Dickson records evidence that cannot fail to carry weight with all open to conviction, and asks for "the views of other workers on this subject, whether clinicians or pathologists." As one who has been fortunate in having the opportunity to acquire experience in both these fields of work, I should like to emphasize my opinion that the loss in confidence in the Wassermann reaction, resulting from a lack of knowledge of its limitations and occasional contradictions, is chiefly due to venereologists being either clinicians *or* pathologists, and not clinicians *and* pathologists.

Dr. Major Greenwood's letter, which immediately precedes Dr. Dickson's, points out with great common sense the folly and danger of rivalry instead of co-operation between the clinician and the pathologist. Quite recently in one week I had the following contradictory results, very similar to those recorded by Dr. Dickson:

1. Three children, aged 7, 5, and 3, were sent to me for treatment for congenital syphilis based on reports of strongly positive Wassermann reactions in all three by pathologist "A." I was unable to find any parental history suggestive of syphilis, or any history or clinical manifestations of syphilis in the children, and I therefore had the Wassermann reaction of the three children and the mother tested by pathologist "B," with whose technique I was personally familiar, and in whose work I have complete confidence. All were reported to be completely negative. I then asked pathologist "A" to repeat his test, and the children were now reported to be "weakly positive," but quite at the negative end of the positive series. In my opinion these children were not syphilitic, and I refused treatment.

2. A neurasthenic patient with a history of a "sore on the penis" three months previously, which healed in a week with local applications only, and which was followed by no secondary symptoms, consulted me in the belief that he had had syphilis. From the history I was convinced that the "sore" was not syphilitic, but to satisfy the man tested his Wassermann reaction in order to allay all doubts in his mind. To my surprise the report of pathologist "B" was "strongly positive." I insisted on a second test, which was "negative," and the patient insisted on a third test, which was again negative. Here again I refused treatment. The possibility of mixing specimens could be entirely eliminated in this case. Both pathologist "A" and "B" were experienced and responsible men, and I have personal knowledge of the very conscientious and careful technique of the latter, who was quite unable to account for the contradictory result.

During the late war complete reliance was placed by the R.A.M.C. authorities in the positive Wassermann reaction, and from personal experience in army V.D. hospitals I am convinced that very many men were labelled "V.D.S." who were never infected by the *Spirochaeta pallida*. I consider the Wassermann reaction a very valuable confirmatory test if its limitations are appreciated, but a very dangerous test if it is considered pathognomonic.—I am, etc.,

London, W., May 2nd. H. WANSEY BAYLY.

TREATMENT OF VENEREAL DISEASE.

SIR,—We beg to point out that the review of our book on *Syphilis and Venereal Diseases* in the JOURNAL of April 16th tends to convey a totally erroneous impression of the treatment we advocate for syphilis, and also contains some inexactitudes.

The paragraph quoted by your reviewer is not "a special plea" for the internal administration of mercury, but is intended to show that this method of treatment is not so inadequate as some would have us believe. Of the different methods of mercurial treatment we distinctly state that we regard inunction the most effective, but injection more convenient in practice. For the treatment of syphilis in general we recommend combined treatment by arsenical compounds and mercury injections.

With regard to the cases of exfoliative dermatitis, your reviewer is in error in stating that we have omitted to give details of the treatment given to these cases. If he refers to pages 230, 234, he will find this distinctly stated.

Again, the statement that only a few lines are devoted to tests for cure of gonorrhoea is also incorrect. Apart from the summary on page 412, and the comments on the complement fixation test on page 331, the question of cure is referred to in several parts of the chapter on gonorrhoea.

There is also given a full description of the use of the urethroscope in testing for cure.—We are, etc.,

C. F. MARSHALL.
London, W., April 23rd. E. G. FFRENCH.

*** The reviewer, to whom a proof of this letter has been sent, writes: "In stating that the authors made a special plea for internal mercurial medication, I did not accuse them of neglecting other remedies; I think they were quite right to stand up for 'pills.' I regret to have overlooked the details of treatment given on pp. 230 and 234. The suggestion that tests for cure in gonorrhoea might have received more attention is, I think, justified. Although scattered references to the subject may be found in the book, this point seems of such importance that these references should have been collected in the special section headed 'Tests for the Cure of Gonorrhoea' on p. 412. The fact that a reviewer has missed them suggests that they will escape the attention of other readers, whereas it should be impossible to read a modern work on venereal disease without having this subject forced on one's attention."

SAPRAEMIC GLYCOSURIA.

SIR,—1. Please allow me in your columns to thank Dr. Mitchell, Dr. Leyton and Dr. Cammidge for their comments on my paper on sapraemic glycosuria: Dr. Mitchell for supporting my thesis by his record of two contrasted cases, one of sapraemic glycosuria following carbuncle, the other of diabetic gangrene; Dr. Leyton especially for drawing attention to the connexion between sapraemic glycosuria and pyorrhoea alveolaris (a subject worthy of a great monograph all to itself); and Dr. Cammidge for following up my last paragraph and so coming nearer to those great generalizations concerning glycosuria which are beginning to enlighten us already, and are likely soon to bring great improvement to our knowledge and practice.

2. In my chapter on the History of the Doctrine, I am sorry to say that, through sheer ignorance, I made no mention of the very fine monograph on "Glycosuria and Surgery" contributed by Messrs. Guy Bellingham Smith and Herbert E. Durham to the *Guy's Hospital Reports* of 1892, vol. xlix (published by Churchill in 1893). To me this very learned and competent monograph, nearly 100 pages long, ranks as a minor classic, and it ought, as such, to be reprinted. The authors divide cases of surgical lesions complicated by glycosuria into two classes: (A) Those where the lesion is the actual and direct cause of the glycosuria, and (B) those where the glycosuria precedes and is not dependent on the surgical lesion—for example, diabetic gangrene. Class (A) is divided into (i) toxic glycosuria and (ii) traumatic glycosuria. Toxic glycosuria is subdivided into (*a*) a *septic form*, in which the glycosuria is "determined by the influence of micro-organisms upon the system or upon individual tissues—for example, carbuncle, phlegmon" (this is what I call sapraemic glycosuria); and (*b*) a form due to drugs such as chloroform, chloral, opium, morphine, etc. In this case the authors say "there is reason to believe that the reducing substance in many cases is not glucose but glycuronic acid."

"What we insist on here," say the authors, "is that glycosuria, accompanied or not with polyuria, albuminuria, etc., may, and frequently does, occur as the result of the lesion for which the patient is presenting himself, and by its presence may lead to a possible erroneous diagnosis of a past glycosuric condition, and thus influence prognosis. Another practical point, that specially interests us here, is whether the sugar is of ill omen for the future course of the patient as regards both his local and general condition." (P. 339.)

The history of the doctrine is carried by the authors much farther back than I have done. Prout in 1840 recognized that glucose might appear for the first time in a patient affected with carbuncle, and states that Cheselden in the eighteenth century recognized the same fact; Prout also declares that this matter is of great importance to surgeons, who commonly have to treat such cases. The authors, like Dr. Cammidge, refer to Prévost's thesis of 1877, and Redard's paper on "Ephemeral glycosuria in surgical affections" in the *Revue de Chirurgie* of 1886. They also quote Mr. Spencer's paper of 1892 (as I did); Sir Cuthbert Wallace's work had not then appeared.

3. In order to show what encouragement we are already receiving by the present-day reception of our doctrine, I cannot, of course, quote from the many kind and enlightened private letters that I have thankfully received from many great surgeons and physicians; but I am free to do justice to such textbooks as I have found correct and up to date in their teaching concerning sapraemic glycosuria; the authors will surely allow me to express my desire (though that may be unnecessary) that they should in future editions amplify their brief remarks.

1. From Choyce's *System of Surgery*, vol. i, p. 206, published in 1912:

"*Dry Gangrene.*— . . . Glycosuria is a frequent accompaniment of this sort of gangrene, and is probably due to the absorption of toxic products from the dead and dying tissues. It must not be mistaken for the glycosuria of diabetes, for it is unaccompanied by the classical symptoms of that disease, and passes off when the dead part is removed." (Article by Mr. Cyril Nitch.)

2. From Rose and Carless's *Textbook of Surgery*, tenth and latest edition, p. 1294:

"An interesting form of glycosuria occurs in some infective conditions of the type of cellulitis (boils, carbuncles, etc.) where the presence of glucose in the urine appears to be secondary, and disappearance quickly follows effective operative treatment. The explanation of this condition is not at all obvious."

May we not infer from these extracts that the seed sown a generation ago by Prévost, Redard, Spencer, Godlee, Bellingham Smith, Durham, and Wallace, has at last almost come to full harvest?—I am, etc.,

Birmingham. CHARLES GASKELL HIGGINSON.

DESCENT OF THE TESTIS.

SIR,—After working for a considerable time upon the problem of the descent of the testis, I am inclined to the opinion that the descent is conditioned by the fact that the temperature within the tunica vaginalis is lower than that of the general abdominal cavity.

There is an optimum temperature at which the spermatozoa are produced; the undescended testicle is aspermatic; the scrotum is a region most excellently equipped for the purposes of heat-loss.

In many groups of the animal kingdom the intimate relation between temperature and capacity for reproduction is established. The mechanism of the periodic ascent and descent of the testis in other groups indicates that the almost passive part ascribed to the gubernaculum testis is but a feeble reminiscence of the part it used to play.

The general teaching is that in cases of cryptorchism the testis does not descend because it is imperfect. Certainly, a malformed testis can be a mechanical cause of non-descent as may also an imperfection of the peritoneum, gubernaculum, inguinal canal, or scrotum. But since it is a fact that a normal testis when permanently transferred from the scrotum to the abdominal cavity assumes the histological characters exhibited by a testis which has never descended, it is obvious that the situation can be responsible for the imperfection—for the aspermatic condition of the testis. This is also demonstrated by the fact that if a retained testis can be drawn down into the scrotum without interference with its trophic supply and in the absence of irreparable imperfection of the accessory sexual apparatus it will become functional.

I feel that this line of investigation is worth pursuing further, and I shall be very grateful for information upon the following points:

1. What diseases so affect the skin of the scrotum that the sweat glands are destroyed? In such diseases is the testis aspermatic and the man sterile?
2. Are any data available of the temperature of the abdominal cavity and of the interior of the tunica vaginalis?
3. If an ovary descends to occupy a position within the labium majus, does it function?
4. What is the fate of auto-transplanted ovary and testis in unusual situations—superficial and deep?

According to the theory proposed above the answers to these questions are obvious. But my great need for the moment is facts which surgeons can give me.—I am, etc.,

Animal Breeding Research Department, The University, Edinburgh, April 27th. F. A. E. CREW, M.B.

DIFFERENTIAL STAINING OF CARCINOMATA.

SIR,—In reply to Dr. Shera (whose memorandum appears in your issue of April 30th, p. 639), I do not think that we have yet arrived at a differential stain for the essential cells of carcinoma. The method that he recommends does not differ materially from that in use in the large majority of pathological laboratories. In order to confirm this I have taken an axillary gland in an early stage of carcinomatous invasion and stained it, meticulously observing his temperature and time. Concurrently with this I examined several carcinomata of the breast of varying degrees of malignancy. In the result I was unable to confirm the differentiation that Dr. Shera found, and on slightly varying the time and concentration and sample of haemalum it was possible to obtain entirely different results, as almost every variety of tone was obtained both with the nuclear and counter-stains. Not only is there considerable difference between the staining reaction of the various types of haematoxylin and haemalum at present on the market, but also the colour can be modified by varying the time of immersion in tap water, with or without ammonia or sodium bicarbonate.

Does Dr. Shera depend on a stain for distinguishing between a leucocyte and an epithelial cell? It would

certainly appear so from his memorandum. The distinction between carcinoma and normal epithelium must still depend on the grouping of the cells, their relation to the tissue in which they lie, and the structure of their nuclei (to name a few of the most important points), rather than on a staining reaction which varies, *inter alia*, with the shop from which one buys one's haematoxylin!—I am, etc.,

London, W.C., April 30th. A. KNYVETT GORDON, M.B.

PULMONARY AND AORTIC BLOOD PRESSURES.

SIR,—Dr. Harry Campbell, in his letter of April 9th, asks "the meaning of the great excess of the aortic over the pulmonary blood pressure (how comes it, for example, that the aortic pressure of the mouse is greater than the pulmonary pressure of the horse?)." The reason appears to me to be that the pulmonary circulation corresponds to an irrigated area, through which the water flows indifferently, whereas the aortic and general circulation corresponds to a town distribution, where the local requirements are variable.

Were the low pressure pulmonary system adopted generally the only way of increasing the circulation to a muscle in action would be by increasing the heart beat, which would affect all organs equally with the active muscle—a most undesirable result. By this high pressure system the supply to one part can be greatly increased with but a nominal effect on the rest. The arteries are elastic and overstretched that life itself may be elastic.

The high aortic pressure of the mouse is easily attained, because the left ventricle of the mouse is smaller than that of the horse. The inner surface of the mouse's ventricle has to press against the resistance of, perhaps, one square inch of blood; the horse's against many square inches, and, as I explained in my article of February 5th, the effort required does not increase as the diameter, nor even as the square of the diameter, but as the *cube* of the diameter of the contracting ventricle. The horse's ventricle is not large that it may raise a high aortic pressure, the mouse's ventricle can do that; it is large and thick that it may throw out a large quantity of blood at each stroke against a high pressure resistance; whereas that of the mouse is called upon to throw out a very small quantity of blood, against a similar high pressure resistance. A child can lift a brick a foot high, whereas it requires a man to lift a dozen simultaneously through the same height.

Incidentally it may surprise many to know that the pressure one puts into a bicycle tyre is about equal to that required for the tyres of a Rolls-Royce car.—I am, etc.,

Mentone, April 26th. D. W. SAMWAYS.

PROSTATIC CONGESTION.

SIR,—Your correspondent, "Æt. 53," says that he suffers from "priapism at night, subsiding when the bladder is emptied." This I believe to be bad treatment. I had similar symptoms at his age, but believing that the pad of water in the bladder might, by its support, decrease local congestion, I strove to control the priapism by altered positions in bed, and often succeeded. The result is that now, when over ten years older, I can generally sleep the night through as comfortably as a boy, and easily pass water in the morning. Sometimes when I wake at night I feel a heavy, oppressive, prostatic (?) congestion, which is at once relieved by passing water. If I yield to the desire, when I wake later I commonly have priapism pretty acutely. If I resist, and soothe the congestion by several changes of position before again sleeping, I have no further trouble.

Perhaps the prostate can be trained to behave itself, like many another organ.—I am, etc.,

April 26th. ÆT. 64.

PHYSIOLOGY AND CLINICAL MEDICINE IN SHEFFIELD.

SIR,—I should like to add a few supplementary words to the interesting article in your last issue on "Physiology and clinical medicine in Sheffield."

In the first place, Professor Leathes holds the post of consulting physiologist, not only at the Royal Infirmary, as stated in your article, but also at the Royal Hospital. At each institution Dr. Imrie is in charge, under Professor Leathes, of the clinical physiological laboratories. This ensures identical conditions for students attending at either place.

As a matter of fact all the four voluntary hospitals in Sheffield have for some time been united for purposes of clinical teaching, under the control of a joint representative committee, and students of the medical faculty are allotted for various periods to each institution.

Personally, I believe that this harmonious co-operation of the staffs of the four voluntary hospitals in connexion with the Faculty of Medicine has indirectly been a factor in leading up to the spontaneous and generous action of the Medical Panel Committee which you record. Just as your article shows that the clinician and the laboratory worker have found there is a mutual advantage in coming more closely together, so there have been, latterly, many signs, in this area at any rate, that the gulf which has for so long separated members of hospital staffs from general practitioners may soon be bridged over. The generous action of the Medical Panel Committee of Sheffield has laid a solid foundation for one pier of the bridge, and with this excellent start I have no doubt whatever that the structure will soon be complete.

If such a *rapprochement* between hospital staffs on the one hand and general practitioners on the other can be realized here, there is no obvious reason why it should not be realized elsewhere. When such a thing once comes about it will require but little more to acquire all that is of real importance in the Dawson Committee's findings, and practically at very little cost.—I am, etc.,

University of Sheffield, May 2nd. ARTHUR J. HALL.

Obituary.

HENRY EDWARD JULER, F.R.C.S.,

Consulting Ophthalmic Surgeon to St. Mary's Hospital, London.

THE death of Mr. Henry Juler, after a long illness, removes one who was for many years a very familiar and well-loved figure among ophthalmic surgeons in London.

Henry Edward Juler was the son of Dr. H. C. Juler, and was born in Suffolk. He received his medical education at St. Mary's Hospital, and took the diploma of M.R.C.S. in 1867 and that of F.R.C.S. in 1879. He was at one time demonstrator of anatomy at St. Mary's Hospital Medical School and medical superintendent of the hospital; afterwards he resolved to devote himself to ophthalmology, and became pathologist to the Royal Westminster Ophthalmic Hospital, and later assistant ophthalmic surgeon to St. Mary's Hospital.

In a long professional life of over fifty-five years, he made numerous friends and no enemies. His kindliness of disposition made him a most delightful colleague to work with. At St. Mary's Hospital, with which he was associated during the whole of his professional life, generation after generation of students came to know him and to regard him, even when he was very much senior to them, as a friend.

For over twenty years he worked at St. Mary's as a colleague of Sir Anderson Critchett, and in the latter years of that time he was responsible for the whole of the out-patient work and the teaching of the hospital. When Sir Anderson Critchett retired in 1901, Mr. Juler became senior ophthalmic surgeon to the hospital, and the post in which he had served for so many years was formally recognized by the creation of an assistant ophthalmic surgeon. It is pleasant to know that the post is now occupied by Mr. Juler's son, Mr. Frank Juler. As senior ophthalmic surgeon, Mr. Juler continued to work as assiduously, both in the out-patient department and in the wards, as he had in the previous twenty years.

Mr. Juler earned his reputation mainly as a clinician. His *Handbook of Ophthalmic Science and Practice*, first published in 1884, ran through three editions in this country, and was recognized in its time as one of the standard textbooks on the subject. An American edition was also published, based on the English one, but it was not credited to Mr. Juler's authorship, and the only acknowledgement he had of it was a beautifully bound gilt-edged copy of it! Along with Mr. John Griffiths, he demonstrated the presence of the dilator fibres in the iris.

As president of the Harveian Society he delivered lectures on the syphilitic diseases of the eye, which embodied his experience gained by long connexion with the Lock Hospital in the Harrow Road. He was also a vice-president of the Ophthalmological Society of the

United Kingdom. He held the offices of secretary, vice-president, and president of the Ophthalmological Sections of the annual meetings of the British Medical Association in 1890 (Birmingham), 1894 (Bristol), and 1903 (Swansea) respectively.

Mr. Juler was a keen horseman, a keen motorist in the early days of motoring, and a keen golfer. Nothing delighted him more than to take a party of friends down with him either to Sandwich or to Richmond to enjoy a day's golf, or to assemble his friends around him at Cavendish Square. He was of an essentially hospitable nature, like the old doctor in the poem, "An upright man, who mixes pills, and likes to see his friends about him."

His increasing deafness had of recent years caused him to withdraw a good deal from association with any public work, but he continued to see patients in private until the end of the war, when he finally retired from practice.

PETER TYTLER, M.D.ABERD.,

Consulting Surgeon to Ancoats Hospital, Manchester.

THE medical profession of Manchester has recently lost one of its oldest and most respected surgeons, Dr. Peter Tytler, consulting surgeon to the Ancoats Hospital. Dr. Tytler was born in 1850 at Milltown of Corsindae, Midmar, Aberdeenshire, where his father, William Tytler, was farmer. He was educated at the Midmar parish school and at the Grammar School, Aberdeen. He attended the arts classes in 1866 and 1868, and then studied medicine at the Aberdeen University; later he spent two summer sessions at the Edinburgh University. He graduated M.B., C.M., with highest honours, at the Aberdeen University in 1872, and took the M.D. in 1875. He also studied in Paris. He held the post of assistant medical officer at the Royal Asylum, Aberdeen, where one of his colleagues on the staff was Dr. William MacGregor (in later life Sir William MacGregor, Governor of New Guinea and of Newfoundland). Dr. Tytler was appointed house-surgeon to the Clinical Hospital (now Northern Hospital), Manchester, in 1873. Later he commenced general practice in Cheetham Hill, Manchester. He was elected honorary surgeon to the Ancoats Hospital, Manchester, in 1876, and held the post for forty years, being senior surgeon for many years. In 1916, on retiring from the active staff, he was appointed consulting surgeon. Thus he gave a very large proportion of his time and energies during the long period of forty years in purely honorary service to the Ancoats Hospital.

As a surgeon he often obtained very successful results. Early in his career he was much interested in trephining operations, and so long ago as 1892 published successful cases of compound depressed fracture of the skull treated by elevation and reimplantation of fragments. He also recorded a successful case of ruptured interstitial tubal pregnancy treated by suture of the fissure, and described a method of treating empyema by antiseptic plugging. One of his most successful operations (recorded in the BRITISH MEDICAL JOURNAL, February 7th, 1903) was in a case of marked compression myelitis, caused by spinal hydatid cysts. He removed fourteen hydatid cysts from the vertebral canal. Excellent results followed. Another of his cases, which was much discussed at the time in the district where he practised, was one of Caesarean section performed on a Jewish woman who had just died. With no instruments beyond those in his pocket case, he removed a living child from the uterus of the dead woman. The child lived to adult age.

Dr. Tytler continued his general practice, in addition to his heavy surgical hospital work, up to the end of his professional career. He had an extensive practice, which included a large number of Jews and foreign residents. He was beloved by all classes, British and foreign, and he was gratified to know that, during a serious illness some years ago, his recovery was prayed for by Catholics, Jews, and Protestants alike.

Dr. Tytler was a cheerful, kindly, warm-hearted Scotsman; fair-minded, sympathetic, and considerate; particularly good-tempered with patients and colleagues, and deservedly popular with both. He was a well built, tall, active man, and had a great love for his birthplace in Aberdeenshire, which he usually visited once a year. He worked very hard and took a keen interest in his profession during his forty-four years of active practice. But he remained up to the last young in heart, cheerful, and optimistic; he was a fine example of the type of energetic intelligent men sent into the profession from the University of Aberdeen fifty years ago. He married in 1889 Emily, eldest daughter of John Neeld of Lichfield. In 1916 he retired from active practice, but took a keen interest in medical literature up to the end of life. Death occurred suddenly on April 9th from cerebral haemorrhage. He was buried on April 12th at the Southern Cemetery, Manchester.

THE death occurred on April 24th of Dr. CHARLES AUGUSTUS GREAVES, of Derby. He was born in April, 1842, the son of the late Dr. Augustus G. Greaves, and received his early education at the Derby Grammar School. He subsequently studied at St. Thomas's Hospital, where he was Cheselden gold medallist in 1863. He took the diplomas of M.R.C.S. and L.S.A. in 1863, and graduated M.B.Lond., with honours in medicine, midwifery, and forensic medicine, in 1865, and LL.B. in 1866. He had held the offices of house-surgeon and resident accoucheur at St. Thomas's Hospital, medical officer at the Derby Union Infirmary and H.M. prison at Derby, and also to the Derby Diocesan Training College. He was consulting physician to the Derbyshire Hospital for Children and the Derbyshire Royal Infirmary, an ex-president of the Midland Branch of the British Medical Association, and a member of the British Association for the Advancement of Science. He is survived by his widow, two sons and one daughter.

THE death is announced of M. HENRI DURET, one of the pioneers in France of the application of cerebral localization to surgery. He had attained the position of surgeon to the hospitals in Paris some thirty years ago, when he accepted a chair in Lille, where he spent most of his life. During the recent war he organized and directed several Red Cross hospitals, remaining at his post during the German occupation.

Universities and Colleges.

UNIVERSITY OF GLASGOW.

THE following degrees were conferred on April 26th:

M.D.—J. C. Young.

M.B., CH.B.—*T. O. Howie, *J. Leishman, Annie M. Alexander, Marjorie M. Anderson, A. Barr, Rosa Bass, Elizabeth M. V. H. B. Bird, Elizabeth E. Brown, M. Brown, Eilen B. Cowan, D. R. F. Davidson, P. A. Faichney, Elizabeth J. Findlay, C. M. Forbes, Agnes M. Gibson, F. D. Gillespie, Mary A. Grant, Brunnhilde M. Grieve, W. M. Hamilton, G. Harvey, Nora G. Henry, Marion P. Hogg, P. Hutchison, T. H. Irvine, W. Jope, W. L. Kennedy, W. M. Kennedy, Jane S. Knight, A. L. M'Adam, Moira E. N. MacAlpine, J. Macdonald, J. Macfarlane, W. M. MacFarlane, S. W. M'Ghee, D. L. Macintyre, K. Mackenzie, D. M. Macmillan, J. C. M'Naught, Laura M. D. Mill, A. M'C. Millar, J. M. L. Mitchell, N. M E. Montgomery, G. W. Murray, J. S. M'L. Ord, D. Reid, J. Reid, A. M. Robertson, I. C. Robertson, K. M. Rodger, Kathleen E. H. Rutherford, J. Y. Scott, H. E Seiler, J. Shanks, J. Shulman, A. W. Sinclair, L. Sive, Elizabeth H. M. Slimmon, Christina S. Stoddart, W. R. P. Templeton, G. Tudhope, R. J. Watson, Lilian J. T. White, R. H. Williamson, G. S. Wilson, P. A. Wilson, Elizabeth Young.

* With commendation.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary quarterly Comitia of the Royal College of Physicians of London was held on April 28th, when Sir Norman Moore, Bt., presided. The following were elected to the Fellowship on the nomination of the Council:

Charles Oliver Hawthorne, M.D.Glasg., Arthur John Cleveland, O.B.E., M.D.Lond., Charles Herbert Melland, M.D.Lond., Joseph George Emanuel, M.D.Lond., Frank Harwood Jacob, M.D.Lond., Alfred Edward Barnes, M.B.Lond., John Prescott Hedley, M.B.Camb., James Aubrey Torrens, M.D.Lond., Alfred Joseph Clark, M.C., M.D.Camb., Anthony Feiling, M.D.Camb., Robert Hunter Steen, M.D.Lond., Charles McMoran Wilson, M.D.Lond., George Edgar Septimus Ward, M.D.Lond., John Beresford Leathes, M.B. xon., F.R.S.

The following candidates having passed the required examinations were admitted to the Membership:

James Browning Alexander, M.D.Glasg., George Ashton, M.D.Manc., Percy Stanley Blaker, John Alexander Murray Bright, M.D. Liverp., Loswel Israel Braude Braun, M.B.Lond., Ernest Alfred Broughton, M.B.Toronto, George S. ation Buchanan, M.D.Lond., Ruth Eden Conway, M.B.Manc., Arthur Joseph Eagle on, M.B.Lond., Ernest George French, M.D.Edin., Charles Brehmer Heald, M.D.Camb., Godfrey Taunton Hebert, M.D. Oxon., Arthur Hillyard Holmes, M.D.Manc., Alice Marion Hutchison, M.D.Edin., Henry Wallace Jones, M.B.Liverp., John Wycliffe Linnell, M.D. amb., Charles Cyril Okell, Donald Hugh Paterson, M.B.Edin., Miles Kenneth Robertson, M.B. Camb., James Alfred Shorten, M.B., B.U.I., James Calvert Spence, M.B.Durh., Ernest Basil Verney, M.B.Camb., Cecil Charles Worster-Drought, M.D.Camb.

Licences to practise physic were granted to the following 103 candidates who, having conformed to the by-laws and regulations, had passed the required examinations:

*Dulcie S. Adkins, S. E. Amos, L. H. Appleby, G. Armi e, F. Back, E. T. Bailey, F. G. L. Barnes, G. M. F. Barnett, S. H. Barnett, D. E. Bedford, K. M. Bharucha, F. A. Bryning, *Mary Burfield, S. B. Chambers, P. Couacaud, F. C. Cozens, H. A. Crowther, C. K. Cullen, C. B. Dansie, F. E. C. Devegney, I. G. de Zilva, C. F. T. East, *K. St. V. Edwards, G. W. Elkington, R. W. Fairfax, S. Farris, *Katherine M. L. Gamgee, A. J. Gardham, *Janet K. Gatty, W. Göthe, J. B. Gregor, S. Grossman, A. B. Hacking, W. B. Hargreaves, *Eleanor Harse, W. E. Hayes, S. S. Hewitt, J. W. Hirst, R. W. P. Hosford, *Margaret O. Howell, B. L. Jeaffreson, W. D. Jenkins, D. E. Jones, J. T. Jones, M. Kamil, G. W. Karunaratna, *Mary E. Kennedy, M. Korn, J. H. Le Brasseur, R. Lee-Michell, *Bessie Levin C. G. Lewis, E. O. Lewis, W. B. A. Lewis, E. T. Lloyd, J. R. Lund, C. H. Macklin, *Dorothy McNair, *Henrietta A. C. Main, Sytze E. J. Miedema, *Sybil G. Mocatta, J. C. R. Morgan, B. S. Nissé, G. Noott, M. M Ostrowick, R. J. Parry, E. F. Peck, F. A. Phillipps, *Marjorie Pierce, *Cassie E. Pratt, W. S. Ratnavale, H. L. Rayner, A. McK. Reid, J. Reith, *Edith M. Rooke, F. M. Rossiter, C. I. Schiff, C. G. Schoneboom, *Margaret Scott-Moncrieff, G. S. Sinnatamby, H. L. Slaughter, *Elfrida E. A. Spencer, H. E. Suter, E. Tagoe, H. B. Taylor, H. W. Taylor, C. P. Thomas, E. W. C. Thomas, B. W. Thompson, F. H. W. Tozer, J. P. Traylen, Frances I. G. Tweedie, W. G. D. H. Urwick, *Mary G. Vaughan, H. S. Ward, *Mildred Warde, Joan M. R. Warwick, J. F. Weakley, R. A. Webb, *Agnes E. Westwood, H. L. Willey, D. C. Williams, *Constance M. Willis.

* Under the Medical Act, 1876.

Diplomas in Tropical Medicine and Hygiene were granted jointly with the Royal College of Surgeons to the following twenty-one candidates:

J. O. Beven, F. X. Costello, A. Crawford, J. P. de[illegible]va, W. M. Howells, Annie M. Mackay, C. T. Maitland, Mary Martin, M. Morrison, P. Parthasarathy, R. A. W. Procter, B. K. Ray, H. E. S. Richards, Mona M. Ross, C. L. Sahni, D. S. Scott, J. Ségal, L. Sen, P. N. Seth, R. G. Simpson, H. Smith.

Sir Norman Moore was re-elected a representative of the College on the General Medical Council.

Sir Wilmot Herringham was re-elected a representative of the College on the Senate of the University of London.

The Registrar gave notice that at the next College meeting he will move an addendum to the Regulation attached to By-law 217 (which prescribes the times of the several parts of the membership examination), as follows:

"Provided that when the number of candidates exceeds twenty, the President and Censors may fix such additional times for the clinical and oral examinations as may be required for the proper conduct of the examination."

Some formal reports were then received and the President declared the Comitia closed.

The Services.

R.A.M.C. FUND AND R.A.M.C. OFFICERS' BENEVOLENT FUND.

THE annual general meeting of the Royal Army Medical Corps Fund will be held in the Library of the Royal Army Medical College, Grosvenor Road, S.W., at 2.30 p.m., on Monday, June 13th, 1921. The Director-General will preside. It is hoped that all subscribers who can spare the time will be present, and will freely express their views on any point connected with the fund.

The annual general meeting of the Royal Army Medical Corps Officers' Benevolent Society will take place immediately afterwards.

Any officers desiring information regarding these funds are requested to communicate beforehand with the Secretary, Lieut.-Colonel E. M. Wilson, 76, Claverton Street, S.W.1 (Tel. Victoria 2722), so that there may be no delay in dealing with any questions asked.

TITLES OF RETIRED OFFICERS.

IN mentioning recently the death of Deputy Surgeon-General Oliver Codrington, who retired in 1886, he was referred to as R.A.M.C. (retd.). It was stated that he became brigade surgeon in August, 1885, and retired with a step of honorary rank in March, 1886. A correspondent, who signs himself "K." asks whether the R.A.M.C. existed as long ago as 1886, and whether in the current *Army List* any R.A.M.C. officer can be found with such rank as deputy surgeon-general.

The Royal Army Medical Corps, of course, did not exist under that name in 1886. The medical service of the army was then and for long had been entitled the Army Medical Department (the A.M.D.). It became the Army Medical Staff in 1891, and the Royal Army Medical Corps in 1898 by the Royal Warrant of June 23rd, 1898. Our correspondent's point is, we presume, that it is incorrect to speak of any retired medical officer holding a medical or a compound title as an officer of the R.A.M.C. Strictly speaking, he is right in this argument; such retired officers should be called retired officers of the A.M.D., or of the Medical Staff, as the case may be. But we think it is customary to speak of all retired medical officers as retired officers of the R.A.M.C., even though they retired before that corps title was given.

The monthly *Army List* does not give the names of retired officers. In the *Quarterly Army List* for January, 1921, the War Office official list, the name of O. Codrington is given among those of "Brigade Surgeons (with honorary rank of Deputy-Surgeon-General)." This list gives no retired deputy-surgeon-generals of the British Army, but gives the names of six under the I.M.S. The same list gives, for both services, the names of a number of brigade-surgeons, brigade-surgeon-lieut.-colonels, surgeon-lieut.-colonels and surgeon-majors, all titles which equally have long been obsolete as far as serving officers are concerned.

The titles deputy-surgeon-general and surgeon-general were superseded nearly thirty years ago by the titles of surgeon-colonel and surgeon-major-general and by those of colonel and major-general in 1898 and 1918 respectively. The title of surgeon-general was revived for twenty years, 1898–1918.

DEATHS IN THE SERVICES.

LIEUT.-COLONEL CHARLES GEORGE DRUMMOND MOSSE, R.A.M.C. (ret.), died at Weymouth on February 25th, aged 63. He was born at Kingston, Jamaica, on August 22nd, 1857, the son of the late Deputy Surgeon-General Charles B. Mosse, C.B., C.M.G., who entered the army in 1853 and died in 1912. He was educated in the medical school of the R.C.S.I., and took the L.R.C.S.I. in 1879, the L.K.Q.C.P. in 1880, and the F.R.C.S.I. in 1888. Entering the army as surgeon on February 5th, 1881, he became lieutenant-colonel after twenty years' service, and retired on October 17th, 1908. He served in West Africa, in India, where he was physician to the Maharajah of Dhar, at St. Helena, and in Jamaica, where he rendered valuable services during the great earthquake in 1907. After retirement he was employed as senior medical officer of the Guernsey and Alderney District, and subsequently by the War Office and the Ministry of Pensions until July, 1920, when his health completely broke down. He served with the Sherborough expedition on the West Coast of Africa in 1883, when he was mentioned in dispatches, and during the South African war, 1899–1902, was senior medical officer at St. Helena, receiving the Queen's medals. He is survived by his widow, the eldest daughter of the late Lieut.-Colonel John Peter Boileau, and three daughters and one son.

Lieut.-Colonel Albert Kirwan, R.A.M.C.(ret.), died at Hampstead on April 9th, aged 79. He was educated in Dublin, and took the L.R.C.S.I. in 1867 and the L.K.Q.C.P. in 1868; subsequently he took the F.R.C.S.Edin. in 1887 and the D.P.H. of the London Colleges in 1889. Entering the army as assistant surgeon on March 31st, 1868, he attained the rank of lieutenant-colonel after twenty years' service, and retired on October 26th, 1896. After his retirement he was employed at Leicester.

Surgeon-Lieut.-Colonel James Barker, R.A.M.C.(ret.), died in London on April 10th, aged 81. He was educated in Dublin, took the L.R.C.S.I. in 1859 and the L.K.Q.C.P. in 1860; he entered the army as assistant surgeon on September 30th, 1863, attained the rank of surgeon-major on April 28th, 1876, and retired on October 10th, 1888, afterwards receiving the title of surgeon-lieutenant-colonel when the compound titles were given in 1892. In the regimental days he served in the 1st Foot, the Royal Scots or Royal Regiment, and in the 41st Foot, the Welsh Regiment.

Captain Allan Noel Minns, D.S.O., M.C., R.A.M.C., died at Thetford, Norfolk, on March 6th, from the effect of injuries received in a motor accident on March 3rd. He was born in March, 1891, the son of Dr. A. G. Minns of Thetford; educated at Guy's, and took the L.M.S.S.A. in 1914. He took a temporary commission as lieutenant in the R.A.M.C. on September 26th, 1914, and was promoted to captain after a year's service. He took a permanent commission as lieutenant (temporary captain) in the R.A.M.C. on January 1st, 1917, and became captain on March 26th, 1918. He had been on active service abroad through the greater part of the war, including the campaign in Mesopotamia; was thrice mentioned in dispatches; in the *London Gazette* of October 29th, 1915, October 19th, 1916, and August 27th, 1918; and received the Military Cross on October 29th, 1915, and the D.S.O. on June 3rd, 1916.

Captain Robert Long Gamlen, Indian Medical Service (retired), died of blood poisoning at Dawlish on February 18th, aged 39. He was born on March 2nd, 1881, the third son of the late Mr. Leonard Blagden Gamlen, J.P., of Crediton. He graduated B.A.Camb. with second class honours in the Natural Science Tripos, and then went to St. Thomas's Hospital. He took the M.R.C.S. and L.R.C.P. in 1906, and graduated M.B., B.C.Camb. in 1908, and M.D. in 1912; he took the D.P.H. with distinction in the same year. After filling the posts of out-patient house-surgeon and resident house-surgeon at St. Thomas's, he entered the I.M.S. on August 1st, 1908, becoming captain after three years' service. He was placed on temporary half pay, on account of ill health, on November 24th, 1913, and invalided out of the service on August 28th, 1914. In the following year he rejoined for service, and served in the Pavilion Hospital for Indian soldiers at Brighton. He had previously served on the North-East Frontier of India in the Aber campaign of 1912, receiving the frontier medal with a clasp.

The Sultan of Egypt has conferred the decoration of the Order of the Nile (Fourth Class) upon Captains T. W. Stallybrass and P. C. Field, R.A.M.C., in recognition of valuable services rendered.

Medical News.

THE Queen will open the recently established Unit of Obstetrics and Gynaecology at the Royal Free Hospital on Wednesday next, May 11th, at 3 p.m. It is the first unit in these subjects to be established in London. The director is Dr. Louise McIlroy, formerly senior assistant to the Muirhead professor of obstetrics and gynaecology in the University of Glasgow.

THE annual dinner of the Federation of Medical and Allied Societies will be held at the Café Royal on Thursday, May 26th. The chief guest will be Dr. Addison, in recognition of the services he has rendered, under circumstances of exceptional difficulty, as first Minister of Health. Sir Alfred Mond, Minister of Health, will be present, as also will members of the medical group in Parliament and other guests.

ON April 26th a presentation, which took the form of a suitcase and a cheque, was made by the staff of King Edward's Building of the General Post Office to Dr. S. B. Pennington as a mark of appreciation on his transfer from the E.C. district office, where he had been for seven years, to the Western district office.

THE Industrial Welfare Society proposes to hold a conference of medical men interested in industrial medicine on June 2nd. The purpose of the Society is to co-ordinate the individual efforts made by firms in different parts of the country to deal with the medical difficulties which stand in the way of industrial warfare. Medical men interested can obtain further information from the Director of the Society, Mr. Robert R. Hyde, 51, Palace Street, Westminster, S.W.1.

THE annual summer dinner of the Glasgow University Club, London, will be held in the Holborn Restaurant on Friday, May 27th, with Professor F. O. Bower, F.R.S., in the chair.

THE Cambridge and Paul Instrument Company, Ltd., has issued two new lists; the one of Cambridge microtomes, including the universal, rocking, and freezing microtomes. Particulars of the construction of the instruments are given. Copies can be obtained from the Company at 45, Grosvenor Place, London, S.W.1. The other catalogue describes the Cambridge recording clinical thermometers as devised for Sir G. Sims Woodhead and Dr. P. C. Varrier-Jones.

A COURSE of eight lectures is being given in the Physiological Laboratory at St. Bartholomew's Hospital, on Tuesdays, at 4.30 p.m. They are addressed to advanced students of the University of London and others interested in the subject. The course is recognized in connexion with the B.Sc. (Honours) degree in physiology. The first lecture was given by Professor W. D. Halliburton, on the cerebro-spinal fluid, on May 3rd; the lecture on May 10th will be by Professor M. S. Pembrey, on the secretion of milk; that on May 17th, by Mr. J. Barcroft, on alpinism; and that on May 24th, by Professor W. M. Bayliss, on the reaction of the blood. Other lecturers are Professors Leathes and Starling and Drs. H. H. Dale and Leonard Hill. Another course of eight advanced lectures in physiology is to be given by Professor H. E. Roaf at the London Hospital Medical College; these lectures will be given at 4.30 p.m., on May 12th and following Thursdays. The subject of the course is "Reception of Sensory Stimuli."

IN view of the passing of the Blind Persons Act, 1920, the Minister of Health has reconstituted the Advisory Committee on the Welfare of the Blind so as to afford representation to the local authorities under the Act and to voluntary agencies for the blind, and the following have been appointed members of the committee: Right Hon. G. H. Roberts, M.P., Chairman; Mr. P. M. Evans, LL.D., Vice-Chairman; Mr. Alderman F. Askew, Mr. A. M. Bernard, Miss Winifred Bramhall, Sir Coles Child, Bt., Mr. H. Davey, Mr. James Graham, Mr. Councillor J. A. Hill, Sir William Hodgson, Mr. T. Holt, Mr. A. L. Lowe, C.B.E., Mr. G. F. Mowatt, Mr. H. J. Munro, Sir Arthur Pearson, Bt., G.B.E., Mrs. Wilton Phipps, Rev. P. S. G. Propert, M.A., Mr. R. Richardson, M.P., and Mr. W. H. Tate. The committee will advise the Minister on matters relating to the care and supervision of the blind, including any question that may be specially referred to them by the Minister. Mr. F. M. Chapman, of the Ministry of Health, will act as secretary.

THE house and library of the Royal Society of Medicine will be closed for Whitsun from Saturday, May 14th, until Tuesday, May 17th, both days inclusive.

THE summer session of the West London Post-Graduate Medical College, Hammersmith, commences on Monday next, May 9th.

A COURSE of instruction for qualified practitioners will be given at St. Bartholomew's Hospital during the summer vacation. It will begin on Monday, July 18th, and end on Saturday, July 30th. Particulars may be obtained from the Dean.

THE National Council for Combating Venereal Diseases will hold a meeting at the Caxton Hall, Westminster, on Tuesday next, May 10th, at 3.30 p.m., to hear the reports of the three Commissions which recently returned from the Far East, the West Indies, and the Mediterranean. The meeting will be open to the public. Representatives will be present from the various Government departments interested in home and colonial health and industrial administration, of mercantile marine associations and shipping firms, and of commercial houses trading with the places visited by the Commissions.

WE referred last week to an unfounded rumour that the baths at Harrogate were closing on account of the coal strike. We are now informed that a rumour, equally unfounded, has been in circulation with regard to other spas of the British Spa Federation, which include Bath, Buxton, Cheltenham, Droitwich, Llandrindod, Leamington, Woodhall, and New Zealand. The fuel supply at all these spas, as at Harrogate, is sufficient to enable them to carry on for some time.

A COURSE of post-graduate lectures in mental deficiency, supplemented by a course of clinical instruction, will be given at the University of London from May 23rd to June 4th. The course is based on the requirements of the syllabus for the University of London Diploma in Psychological Medicine. The fee for the course is 6 guineas. Full particulars can be obtained on application to Miss Evelyn Fox at the University of London, South Kensington, S.W.7.

OWING to the coal strike, the meeting of the Röntgen Society, announced in our last issue as about to be held on May 6th and 7th, has been postponed.

A MEDICAL journal, written in Spanish, entitled *Revista Médica de Hamburgo*, edited by Professors Brauer and Nocht, has recently been founded for bringing Spain and Spanish America into closer relation with Germany.

DR. J. MITCHELL WATT, assistant in the department of materia medica in the University of Edinburgh, has been appointed to the chair of pharmacology at University College, Johannesburg.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:—

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*: telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone, 4361, Central).

QUERIES AND ANSWERS.

"ASPIRIN" would be glad if any members can inform him if they have come across any case presenting the "aspirin habit." His patient, a married lady 51 years of age, suffers from severe pains in the upper half of her chest and back; they recur every four or five hours, but are relieved by 5 to 10 grains of aspirin. She has been complaining for a year, and, as nothing definite can be made out, it has been suggested that taking aspirin may be simply a habit, especially as, on waking out of a sleep, she presents symptoms resembling those seen in a patient who gets hypodermic injections of morphine regularly.

DOUBTFUL SEX.

"NEMO" was asked recently to examine a supposed female child, aged 8 years. The attention of the school medical officer had been drawn to it by a nurse. He found the child to be a boy. The parents asked for the opinion of their own medical man, and "Nemo" confirmed the fact. The child is now attending another school as a boy.

*** A large number of cases of the kind have been recorded and the literature is very extensive. It was summarized by von Neugebauer, and a good epitome of his paper, "What value has the knowledge of pseudo-hermaphroditism for the practitioner?" will be found in the *Journal of Obstetrics and Gynaecology of the British Empire*, vol. 5, January–June, 1904, p. 379. Von Neugebauer collected 68 cases where marriage was concluded between people of the same sex. When there is great doubt it is best to bring up the subject as a boy, or if already taken for a female, to hold him to be a man, and dress and treat him accordingly. Hypospadias, with undescended testes, simulates the external female organs. In some cases it has been found impossible to determine the sex without excision of a genital gland and examination of its tissues under the microscope, and even then the opposite gland may be of the type of the opposite sex.

EXCESS PROFITS DUTY.

"W. F. R." has received a form requiring particulars of his profits since 1914. His practice is a mixed one, £900 of the total receipts of £2,400 being in respect of panel patients.

*** We imagine that the form must have been issued under some misapprehension, as the professional profits of medical men are undoubtedly exempt. "W. F. R." might write to the inspector of taxes, whose address is presumably given on page 1 of the form, pointing out that he claims exemption on the ground that his profits represent professional earnings, and asking for the request for particulars to be withdrawn.

INCOME TAX.

"G. L." has been resident in New Zealand, and during that time a private income arising in this country has been taxed at 6s. in the £. He inquires whether he has any redress.

*** No; at any rate not unless he was residing abroad for reasons of health, so far as the period to April 5th, 1920, is concerned. For the portion of the year subsequent to that date he might be able to claim as a British resident a rebate to the tax appropriate to his total income for that year, excluding his New Zealand earnings, which are not assessable to tax in this country.

"IRISH COMMAND" inquires what tax he is liable to pay?

	£	s.	d.
*** Army pay, £1,186 – £30	1,156	0	0
Deduct 1/10th, say	116	0	0
	1,040	0	0
Deduct personal allowance	225	0	0
Assessable income	815	0	0
Tax on £225 at 3s.	33	15	0
Tax on £590 at 6s.	177	0	0
Total tax due on army pay	210	15	0

In addition our correspondent is liable for tax at 6s. on his income from investments, unless and to the extent to which the tax is paid thereon at the source. The deduction for life assurance is £35 14s. 2d. at 4s. 6d.

LETTERS, NOTES, ETC.

THE GUILD OF BLIND GARDENERS.

MRS. ADOLPHUS DUNCOMBE (Buckingham Gate, S.W.1) sends a letter in which she asks help in making known to the medical profession an organization (The Guild of Blind Gardeners) which is being established to provide outdoor occupation for the blind, and to which we refer this week at page 680.

The matter (she writes) was brought before the Oxford Ophthalmological Congress in 1919, and met with very warm sympathy from the medical men present. Since then a great deal of work has been done, and we propose to inaugurate the Guild at a meeting to be held on May 26th, at 5.30, at the National Library for the Blind, 18, Tufton Street, Westminster. It is hoped in the near future to obtain a piece of land with sufficient accommodation to establish a training centre for the blind and partially blind. Among the speakers will be Mr. Godfrey Mowatt, Captain Pierson Webber and Fred Marriott, all blind, and the latter a practical gardener. My Committee are most anxious to interest medical men in the cause, as they, more than any others, can contribute to the success of the enterprise by putting their patients in touch with our organization. I desire, in conclusion, to emphasize one point: Our aim is to help these unfortunate people to the obtaining of a useful occupation of their time and not merely to offer them charity.

CHRONIC RETENTION OF URINE ARISING FROM PROSTATIC DISORDER.

"AGED 61" writes: In the days of the iron-tyred boneshaker I became a devotee to the cycle, and I attribute the earliest prostatic symptoms (in the late seventies) to riding a bicycle with much too long a stretch for my height; priapism was then my principal trouble. When the petrol motor appeared I was one of the first of our profession to indulge in its exciting experiences, now scarcely credible by the modern car user. When my birthdays reached 54 I began to notice (especially after a rough road had been ridden over) a sudden call to evacuate the bladder and then a "stammering" flow occasionally. I have now turned the three-score years, and this symptom only troubles me after a car run with a certain amount of jolting. I should be glad to hear if the measures taken by "Senectus" would be of use in relieving.

DR. F. P. ATKINSON (Bexhill-on-Sea) writes: If Dr. Herring has not read Dr. Griess's suggestion in the *Cincinnati Medical Review* of February, 1913, I think he will be pleased to hear what he says:

> "Adrenaline used as a rectal suppository has a distinct value, whether on account of its local action before mentioned or on account of the action on involuntary muscular fibres generally, in that way helping the bladder in its expulsive efforts. All my patients note distinct benefits derived from their use, not only locally but generally, and complain when they are withdrawn."

EFFECT OF GUNSHOT WOUND ON SKULL.

"ARMY DOCTOR" writes: I can confirm "Coroner's" important observation, in your correspondence columns, as to the relative size of entrance and exit in bullet wounds. During the war I had many opportunities of observing self-inflicted wounds where one could be certain of the direction of the bullet, and I came to the conclusion that it is fairly common for the wound of entrance to be the larger. I do not remember ever having observed this when the bullet came from a distance, but it is very hard to be sure which way the bullet came in these cases. In spite of dogmatic statements in some books, it is not possible in certain cases to say at what distance from the victim the shot was fired, nor what direction it pursued. For instance, the fact of finding a modern high-velocity bullet lodged only an inch deep in a man's body would seem to preclude it having been fired at short range, yet I have seen this lodgement in a man who was hit by a machine gun fired inside the same barn in which he was standing. The bullet must, of course, have ricochetted in the interior of the building, but it was only slightly deformed. I have a great many times seen limbs traversed by a bullet fired at very short range which showed the small, neat perforations through bone and soft tissues popularly supposed to be caused only by missiles which have travelled far enough to have ceased vibrating. Singeing of the skin, as "Coroner" noted in his case, is frequently absent in those self-inflicted wounds where one would confidently expect its presence. These facts seem to have an important bearing on the teaching of medical jurisprudence.

ALKALINE DENTIFRICES.

"NESTOR" writes: Recently, in the JOURNAL, two of your correspondents have pointed out the harm caused by using an alkaline dentifrice for the teeth. As practically all the well known dentifrices are alkaline, and in view of the great increase in dental caries, it would be interesting to hear what dental surgeons have to say. It is curious that they should often recommend the mouth to be washed out at night with milk of magnesia, which leaves an alkaline deposit on the gums.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 30, 31, 34, 35, 36, and 37 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 32 and 33.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line...	0	1	6
Whole single column (three columns to page)	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

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